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THE HEALTHY WOMAN

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THE HEALTHY WOMAN

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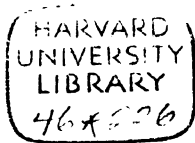
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THE HEALTHY WOMAN.

CHAPTER I.

THE YEARS OF GIRLHOOD.

"Childhood is the bough where slumbered
Birds and blossoms many-numbered."

—Longfellow.

Many books tell mothers all about the care of infants, and how to meet their wrong inheritances and their many needs in the first years of life. That is strictly outside the province of this little treatise upon the healthy woman, but it is something upon which all mothers should thoroughly inform themselves. Probably the best manual for that purpose is "The Century Book for Mothers," by Dr. L. M. Yale and Gustav Pollak.

Our study begins with the years of childhood, namely, after the completion of the first dentition up to the age of maturity, which commonly occurs in this country from eleven to fifteen years.

In early childhood girls usually weigh less than boys of the same age, but between twelve and fifteen years the weight and bulk of the female body are normally somewhat greater than those of the male. Their height should increase at nearly the same rate as in boys, viz., the average of 2 feet and 6 inches at two years to 4 feet and 8 inches at fourteen years.

The relative measurements of various parts of the body in childhood are different from those of more mature years and the difference is greater in girls than in boys. Every mother appreciates this in following the rapid changes necessary in her daughter's garments from year to year. The trunk is disproportionately long as compared with the extremities, the abdomen appears too large, and the general awkward shape of that period is too evident to the eye. These faults in the lines of symmetry are necessary to proper development, and will change about puberty into better relative proportions. All bodily activities and functions are more rapid in childhood than in adults. All organs quickly increase in size during the earlier years. The brain

is of slower development, but it also grows very rapidly up to the seventh year and then more slowly.

Diet in Childhood.

Much more food is needed by children in proportion to their weight than by those of mature years. Sufficient meat and fats to supply new material, as well as to keep up with the incessant activity of a healthy girl, should be furnished, also more sugar and ripe fruits than later years demand, in order to aid the digestion of all the animal food. A vigorous child will use up an amount of energy in its daily exercise which, if proportionately followed by an adult, would soon result in sheer exhaustion; and this consumption of tissue must be replaced by plenty of nourishment. Healthy girls are just as hungry and "hollow" as boys, but their stomachs are comparatively small and must not be overloaded. No doubt their various digestive fluids are now as complex and complete as later, but the alimentary canal is certainly more easily ir-

ritated by food improper in either quantity or quality.

Results of Defective Diet during School Years.

Especially in girls' boarding-schools should the matter of diet be emphasized. During the school period the young girl generally passes through momentous changes leading up to maturity, during which she needs additional care and watchfulness in all particulars and in diet not the least. (See Chapters II and VII.) Not only should the diet list at school contain both animal and vegetable food, but there should be especially included beans, lentils, mushrooms, etc., that is, foods containing salts of lime to aid in the formation of the bones and the second permanent teeth. Those children that plainly inherit feeble constitutions—tuberculous, rachitic or gouty—are better kept at home, where their diet can be regulated more carefully than at the ordinary boarding-school. However, some country schools pay especial attention to the care of such children, keeping them

under intelligent observation and carefully regulating their diet. Many cases of anæmia and so-called "green sickness" about the age of puberty are traceable directly to the faulty nourishment of a wrong diet.

Constipation.

Girls are more apt than boys to become constipated, mainly because they take much less exercise. More exercise and a more liberal supply of vegetables and fruit should at once be prescribed, because this condition is in itself a cause of anæmia. Every manager of a boarding-school, or, better still, every parent who sends a girl to such a school, should realize his or her responsibilities in rightly developing the constitutions under his care, and make himself or herself a master in dietetics, which is sometimes better than the more ordinary "M.D." or doctor of medicine. A high authority on diet puts it, most aptly, thus: "Success in digestion and assimilation is of greater importance than success in mental attainments" in the period when the physical standard is generally established for the remainder of life.

Strangely enough, less care is shown in the diet in girls' schools than in like schools for boys, when the very opposite should be true in the best interests of the race.

Every sensible parent knows the evils of "piecing" or nibbling between meals. It destroys all healthy appetite, wastes the salivary secretion and lessens the vigor of all the digestive processes. No machinery can stand incessant wear and tear.

Breakfast and Lunches.

Neither child nor older person should eat hastily, or when under strong emotion. The child should not be hurried off to school in the morning with a scanty or hastily swallowed breakfast. She cannot endure four or five hours of mental work without the stimulus of a good meal, nor can more delicate children endure the long periods in some schools without extra food. These noon lunches should not be a piece of pie or a doughnut, but rather a cup of hot clear bouillon, broth, milk or chocolate, with a little bread and butter. A simple glass of milk with a cracker is nearly always obtain-

able and is better than the ordinary corner-store display of poorly-made pastry and confectionery.

Meat and Vegetables.

The more rapidly a child is developing—and this is particularly true of those girls who seem to gain inches in length in a few months, when from ten to thirteen years—the more food its system demands, and that means generally good substantial meat and vegetables. These articles, as the main staples of the table should be put on in an attractive form, so as to tempt the appetite. The child must not be allowed to satisfy its appetite upon pastry and sweets when more hearty food is really necessary.

An Excellent "Sample Diet."

The following "Sample Diet" (taken from Thompson's *Practical Dietetics*) is a model of general utility for growing school children. "If early rising is insisted upon, a child should never be set at any task before breakfast, especially in winter, and if

it is not expedient to serve a full breakfast at half past six or seven the child should be given a bowl of hot milk and bread, or a cup of cocoa with a roll, or other light breakfast. Breakfast may be served later after the first exercises of the morning, and should be a substantial meal, with animal food in the form of either fish, or eggs, or cold meat of some sort, with porridge of wheaten grits, or hominy with milk or cream and abundant sugar, also bread and butter with some sweets in the form of jam, or marmalade, or stewed fruit.

The Noon-Day Meal.

Dinner, which should always be served near the middle of the day, should comprise meat, potatoes, with one or two green vegetables, and some form of sweet pudding. The supper, it is generally admitted, should comprise only easily digestible articles of food, and such substances as pastry, cheese and meats are better omitted. It should consist of either a porridge with milk or cream, or a light farinaceous pudding of rice, tapioca, sago, and the like, with bread and but-

ter, and some simple form of preserve, or stewed apples or prunes, or very light plain cake, or a good bowl of nutritious broth with bread or crackers may be substituted for the porridge or pudding. It will sometimes be found best to serve this meal at seven o'clock or half past seven, and if hungry the child may be given a slice of bread and butter and a cup of weak tea or coffee, mostly hot milk, at half past five or six o'clock."

Exercise.

There is no reason why the activities of a healthy girl should not be encouraged like those of a boy. Let her run with a ball, or hoop, or dog, just as her brother does. With certain restrictions of adaptation in the saddle, she may also ride a velocipede, bicycle or a pony. Too wide a saddle might produce a deformity of the growing bones, or too much jarring tend to hernia or other injury of the soft parts. Before twelve she should be just like the boys in all her active forms of exercise, no matter if for the time being she seems a little hoydenish. As

school life begins, the restrictions of sex will begin to be manifest, and by the age of twelve, fashion begins to impose its bondage upon the movements of the romping girl. She is imprisoned in corsets in some form, and begins with longer skirts and tighter boots.

To offset this, she should have in school or at home a system of physical education such as boys are given about the same age. Light gymnastics or general muscular exercise, without apparatus, based upon the Swedish movements which gradually involve the whole body, all undertaken in a light and free costume, will prevent any harm from the possible constrictions of her tight dress.

A child, as a rule, is less easily disturbed by exercise during digestion than is the adult, but girls should be restrained from too much romping or hard play, or any mental work just after eating.

Intellectual Faults.

Parents need by no means feel assured of the intellectual bias of their children in their

early years, or even later in those of slow mental development, for the mental life is as shifting as the pictures seen through the revolving kaleidoscope. Who has not seen a child, of course one under intelligent observation, develop in succession the traits of speech and mental characteristics that belong to recent, or to one knows not how many remote, ancestors? The scroll is slowly unrolled from week to week. The mother is almost in despair over some objectionable tendency which repeats itself day after day, when lo! the scene shifts, and even without special correction that idiosyncrasy gives place to one less troublesome. These more or less distinct clews to the mental make-up are all she can rely upon in anticipating the future and counteracting wrong tendencies. Early childhood, that period when occasional flashes show such traits to be latent, is the time to gently apply proper counter-training.

Curiosity.

Do not chide the little one or think her doomed to endless trouble through life

simply because her desire to know and see everything keeps you continually gratifying her wants or answering her questions. It is curiosity that leads your little girl to grasp for everything in sight and "even sigh for the moon," and that makes her talk constantly in interrogations, or get into all manner of mischief in the nursery; but that is a method of intellectual growth common to all children of any mental capacity, and, though very troublesome, should never be punished as a fault unless a malicious element is evident. Mr. Habberton's Budge and Toddie in "Helen's Babies" are ideal examples of this trait. Very little was effected by the restraint imposed upon this precious pair!

Untruthfulness.

This habit, while very startling to the mother, by no means betokens in a young child great moral obliquity. Little ones are much puzzled by the different qualities of things, and often from ignorance and perplexity tell lies without meaning to do so. Remember, too, that a bright child will tell

stories with no other purpose than the unconscious exercise of the imagination. A habit indulged in by grown people that tends to still more confuse children, is that of deliberately deceiving them just for the foolish purpose of witnessing their surprise. Parents who so far forget themselves as to be guilty of this pernicious error need never expect their children to be truthful. The virtue of truthfulness is so essential, and the habit of lying so dangerous, that too much watchfulness cannot be exercised over a child who persists in the bad habit. Do not be stern with children for unintentional faults; encourage them to confide in you, and teach them that you are greatly grieved by their mistaken statements.

Lack of Attention.

Do not be discouraged because your child cannot give attention or keep consecutively employed at any one thing for a considerable length of time. It does not imply feebleness of mental grasp or a weak will, but rather immaturity of the faculty of attention. The few observers in this field con-

clude that five or six minutes is as long as the infant of one year can fix its attention and so on up to thirty minutes for the primary scholars of six years. The rule that gives rest to the mature mind by a change of work does not apply to young children, who cannot be provided with work of a very different character. As they grow older, this faculty of attention is easily developed.

Sleep.

The child should sleep by itself, and be put to bed at regular hours. The bed clothes should be light. Should she give evidence, by cries or restlessness that her sleep is disturbed, review carefully her diet of the day before, and reform it or exclude from her next day's food the cause of any like exciting or abrupt sensations; or do not allow her—as is sometimes the case—to fall asleep upon an entirely empty stomach.

The little one's quiet life should be so full of scenes of gentleness, love and affection that these qualities enter into its dreams and so mould its waking activity. A child that is constantly in scenes of domestic dif-

ferences, or children's quarrels, or is much scolded, cannot sleep thus peacefully and have pleasant dreams.

As a means of promoting good health and sleep, as well as proper mental growth, nothing exceeds cheerfulness. Let the mother strive to make the days of childhood, through which we can all pass but once in this world, so full of happy memories that they will afford us in later years a gallery of delightful pictures in which we may always find solace from the perplexities of life. Thrice unhappy indeed is one who cannot recall such pictures.

Nervous Girls.

Where there is an undoubted tendency to nervous disorders, such as St. Vitus' dance, epilepsy, tuberculosis, and other brain troubles, careful diet is of the utmost importance. Even more than others does such a child need a strict diet of nourishing, easily-digested food. But this must be supplemented by the utmost pains to avoid brain forcing and nervous excitement. The earliest efforts of such a child to talk, look at

pictures, etc., should be voluntary and never be artificially stimulated.

1 Nervous children are always bright and need intelligent repression. Let physical exercise, out of doors if possible, take the place of mental, until the body more than equals the mind in vigor. Put them into school as late as ten years, if necessary, rather than subject them to mental strain too early. Let them grow up quite innocent of letters, if only their food and sleep are taken regularly and in sufficient quantity. Keep them from the excitement of too much play with stronger and hardier children. Let them be in the nursery or quietly at home under your own eye, and do not let them see, even when very young, too many visitors or strangers. The mental strain of seeing a strange face or being touched by a person whose manner is peculiar, is far greater to a child, and especially one with the tendencies mentioned, than to an adult. Nervous children should never be encouraged to laugh heartily while still infants in arms, or, above all things, tickled or handled too much, as fathers are very apt to do

in "bouncing the baby" in the evening after dinner.

Symptoms That Require Attention.

Moreover, complaints that would be trifling in other children mean much for them and demand immediate attention; for instance, continued sleeplessness, without some evident error in diet or undue excitement, persistent peevishness, especially if accompanied with loss of appetite and weakness, repeated vomiting, scanty or frequent urination, persistent constipation, etc. If the mother cannot correct these things by diet and management, she should confer with her physician, choosing one that will give the matter due consideration and not pooh-pooh her anxiety as uncalled-for, as many a busy practitioner may do, unless pushed into giving proper attention.

On the other hand, do not be too careful of these children, so much so as to worry those about them and make the fathers and physicians deaf to the cry of "Wolf, Wolf!" when the wolf actually comes. It is enough if the mothers of those bits of humanity

whose ancestry have transgressed nature's laws learn to use forethought and good sense in forestalling the inevitable course of those laws. To be a good mother, in the best sense, to any child is no easy task, and is doubly hard for the mother of the little girl with bad inheritances.

CHAPTER II.

FROM GIRLHOOD TO WOMANHOOD.

"Standing with reluctant feet,
Where the brook and river meet,
Womanhood and childhood fleet!"

—Longfellow.

The little girl shows her inborn motherly instinct by her tenderness with her dolls, and later by trailing about the house in her mother's long dresses, and assuming all kinds of petty duties. The growing girl asserts the claims of her sex in many unmistakable ways.

With these well-known signs of budding womanhood go also many others, both physical and mental. These are the subjects of this chapter and constitute the coming into maturity, or, in one word, puberty, from a Latin verb meaning to become mature; and to become mature in the scientific sense, for mankind as well as all animals, is to grow old enough to be capable of reproducing one's own kind.

Puberty.

In becoming a woman every girl undergoes definite bodily changes. These occur at about fourteen years in this temperate zone, earlier in hotter and later in colder climates. The time of a girl's maturity is always somewhat modified by her family inheritance, her mode of life, exposure, general health, etc. If she is constantly at work and has too little nourishing food, she is more apt to show these changes later than a girl who is well housed, abundantly supplied with good food, and who lives a healthful life amid more perfect hygienic surroundings.

Brunettes are said to begin this phase of life earlier than blondes. Certain chronic diseases, especially consumption of the lungs, may retard or even prevent, full development of puberty for months or years.

Physical Evidences of the Change to Puberty.

The outward signs of these on-coming changes, evidences of the awakening of the

hitherto dormant reproductive organs, are commonly as follows: Permanent enlargement of the breasts, with increased sensitiveness, and increase in the prominence and coloring of the nipples; growth of hair in the armpits and elsewhere, general increase in the size and fulness of the body, a rounding out of the whole figure and increase in height; the chest takes on more capacity, and the voice becomes fuller and sweeter; the bony walls, as well as the fleshy parts about the hips actually take on broader shape, and the whole figure and gait show greater strength. At puberty all the functions of nutrition are more active, all the secretions of the body and the volume of the blood are actually increased to some degree; therefore hemorrhages from the nose or other parts are remarkably well-tolerated, and should not unduly alarm since they may relieve dangerous congestions of the brain, lungs or other organs. On the other hand, this period of life is the one when inherited tendencies are very apt to manifest themselves.

Mental and Moral Changes.

There are also corresponding mental and moral changes. The young girl becomes less inclined to romp and indulge in childish games, more gentle generally and more reserved towards those of the opposite sex. If she is well-trained and of well-balanced and healthful mind, she will constantly maintain this attitude. Those unfortunate girls who are ill-balanced by inheritance, or have not had the benefit of the care and advice of a sensible mother, may at this time develop a pertness and forwardness quite surprising to their friends and even to themselves. Knowing that this tendency has a true physical basis and must needs be firmly checked, even the poorly-advised girl will be forewarned. At this time the young girl needs to be far more careful of her health than before. If she has a good mother or female relative to tell her mainly what not to do, she is fortunate.

Precautions.

While she is by no means an invalid, she must now use judgment about her exercise

and her amusements. She needs more than ever to be out of doors as much as possible, but should be moderate in all forms of exercise. (See Chapter V.) Most of all does she absolutely require at this time plenty of good sound sleep, going to bed early and "sleeping out" her full quota of hours. Light household duties, or at least some task other than simply reading, should keep her hands and mind occupied. (See Chapter VII.)

All these outward familiar evidences of maturity are but accompaniments and results of the changes which occur in the reproductive organs of every healthy young woman. These internal changes are chiefly consummated in the periodical phenomena of menstruation.

Menstruation.

This is the physician's term for what is generally known by such varying expressions as, "monthly illness," "turns of sickness," "periods," "courses," or "being unwell," and signifies the recurring flow of blood from the genital passages of women.

This recurrence is usually every twenty-eight days, and is accompanied by increased flow of blood to these parts, and finally the actual discharge of the eggs from their receptacle connected with the womb; and it is usually conclusive evidence that the woman is capable of bearing a child. The regular recurrence of this function lasts up to about the forty-fifth year, that is, thirty to thirty-five years, and its cessation makes the climax, or "change of life."

Natural Disturbances.

This is a perfectly natural function and is thus plainly described because every woman should thoroughly understand its significance. It is in no way alarming if at the first occurrence of this function it is irregular for a few months or actually ceases for a time, or is scanty and imperfect. It is best to let nature, in her own way, finally establish the normal rhythm of this function. Nor is it wise to seek medical advice if menstruation does not appear at all, even up to the sixteenth or seventeenth year, provided the young woman shows no signs of poor

health. This function may be suddenly stopped by the jarring of an accident, cold from exposure, emotional disturbances or disease. Such suspension should lead young women to consult a physician, for it deranges the whole bodily economy. The only physiological and therefore normal reasons for such a checking are the carrying of a child or nursing the same.

Abnormal Discomforts.

In perfect health there should be very little physical discomfort accompanying the monthly return of this function. If there be headache, backache, lassitude of both body and mind, pains in the loins and legs, constriction and tenderness across the lower half of the trunk, disturbed digestion, circulation, or action of the kidneys, it is best regulated by a physician's prescription. Unfortunately there is an increasingly large number of young women who suffer far more than the above conditions each month, and these need more thorough medical, and sometimes surgical, attention.

The Normal Period.

The duration of the menstrual period varies in individuals, and in the same person at different times, for various reasons, some of which will be mentioned in a later paragraph. The average time is three to five days, rarely a week, and the flow usually commences slowly, increases to an average quantity for any particular woman, and then declines slowly.

Several years of menstrual life are usually necessary to fully mature the organs implicated. For this reason very early marriages are a wrong to both mother and children.

Hygiene of Menstruation.

While she may experience during this period none of the physical sufferings detailed above, almost every woman is conscious of being at this time more "nervous" or irritable. Because this is so commonly true, it is evident that the function is a strain upon the system and should have certain hygienic safeguards thrown around it.

Moreover, the actual flow of blood to the parts involved, chiefly the womb and its appendages, makes those organs enlarged and heavy and more liable to displacement during that period. Therefore any of the more strenuous exertions should be postponed until after this period—such as a long walk or drive, a fatiguing journey, or unusual household duties, or severe exercise of any kind, even though ordinarily beneficial. Any over-excitement, late hours, or strong emotional disturbances, should then likewise be avoided. Most zealously should a woman guard herself from exposure to chill and wet, by being warmly clad at such periods.

Every woman is familiar with the necessity for protecting her clothing at this time, and knows all about the convenient belts and napkins for this purpose to be had in most stores. In travelling those of light cheese-cloth are best used, for they can be readily destroyed.

CHAPTER III.

DIET.

"The best doctors in the world are Doctor Diet, Doctor Quiet, and Doctor Merryman."—Swift.

Diet is of the highest importance in the growth of the individual, as well as in the health and comfort of the home. Children should be taught the true meaning and the ways of brain and muscle building very early in life. This education in right eating devolves naturally upon the mother, and is brought about, not by long dissertations upon foods, but by applying her own good sense and knowledge to whatever goes upon the table.

Need of Knowledge.

If a woman would have her family and herself happy as to physical and moral well-being, she must in some degree become a cooking expert, and know the nutritive val-

ue of all that goes upon her table. This requires brains and persistence in acquiring knowledge, and if generally practiced, would result in more social improvement than all the women's clubs, as their purposes are usually manifested, can bring about in several generations. Women's clubs have earned the right to their existence and are teaching both men and women much by training the latter along new lines and thus preparing them, no doubt, for greater activity in the world's work in the near future. But the club-woman who rushes home from a meeting within half an hour or less of what should be the best meal of the day, perhaps picks up on the way a tough steak, or slice or two of ham and a can of some vegetable, and either orders her maid to prepare, or herself cooks, these things hurriedly, without regard to anything but time, is not doing her whole duty towards herself or those of her household, and especially the young and growing members.

This is a picture of the preparation of a meal in many an average home in America, and is true mainly because the mother of the family does not give sufficient time and

thought to such matters, or does not see how her duty lies in that direction.

In homes where there is still greater comfort in other things the meals are often wretchedly cooked and served, the family actually going without proper nourishment and even slipping into serious diseased conditions, simply because the natural steward of such matters, the mother, is either ignorant or wilfully careless about them.

An ideal and healthful womanhood involves sound knowledge in dietetics, thoroughly acquired and properly applied. In the acquiring of such knowledge, there are abundant aids nowadays, besides the physiologies and treatises of the medical libraries. Many popular books on this subject are to be had at the bookstores and news-stands. Some of the best emanate from the great cooking schools of the country, notably those of Philadelphia and Boston. There is only space here for an outline of general principles.

What is Proper Food?

Foods may be classified into animal and

vegetable or, chemically and more scientifically, nitrogenous and non-nitrogenous. In general, the animal (nitrogenous) foods are "the tissue builders" or "flesh formers," while the vegetable (non-nitrogenous) are heat-making or "force producers." These lines are not drawn strictly in the actual preparation of foods, but are mainly true. The human engine must be supplied with energy by the fuel (food) it consumes. It is necessary to vary this fuel according to the amount of exertion required, the necessity of repair of worn tissues or development of new, and by the capacity of the individual concerned.

Water is in a sense a food because it enters into the composition of all tissues and constitutes seventy per cent. of the entire weight of the body. Much water that is taken into the system is excreted unchanged, some is split up into its elements and united with other compounds; all is utilized in one form or another as essential to life. As a rule women do not drink sufficient water for the needs of their bodies. Especially the skin, the kidneys and the bowels cannot act properly without from 70

to 90 ounces (about $2\frac{1}{2}$ quarts) of water, or one-half ounce to a pound of body weight, in each twenty-four hours. This may not all be received as liquid, but may be taken along with the solid foods, most of which contain from 50 to 60 per cent. water. At least three pints of liquid should be drunk each day, better just after or between meals.

Milk is an elementary food for most ages because its composition is the most economical physiologically speaking, that is, it contains one proportion to three of nitrogenous and non-nitrogenous material, a proportion that is found best for a healthy person.

Wheat flour, from the whole grain, is similar, but has a larger proportion of non-nitrogenous material. It is therefore well named "the staff of life" and can, with water, support life almost indefinitely.

Animal and Vegetable Food Compared.

That meat in any form is absolutely essential to life is a common error, since the elements in that food can be found almost as well in others. But the fact remains

that meat stimulates and apparently "strengthens" more than vegetable food, principally because it remains an hour or two longer in the stomach, better satisfies the cravings of hunger, and can be eaten longer alone without exciting loathing. If too abundant meat eating is not counterbalanced by free outdoor exercise or manual labor, it produces an excess of waste matter mainly in the liver and kidneys and tends to cause rheumatism, gout and kindred diseases.

Diet Specially Adapted to Women.

Women especially, whose lives, as a rule, are less strenuous than those of men, should eat sparingly of meat. Even less than the conventional one-fourth animal food should be found in the usual diet of a healthy woman, for the very lack of muscular activity in her quiet life tends to throw too much labor upon the liver and kidneys. Cold meats are an especial tax in this way, and are quite unnecessary for lunches and suppers.

On the other hand, an exclusive vegeta-

rian diet, a thing, by the way, rarely practiced in civilized countries, while it permits of good health for a time, finally results in a loss of strength and power of general resistance against disease. Man from his earliest pre-historic days has always selected his food from both animal and vegetable sources, and there are no advantages of health and strength shown by primitive tribes at present living, in favor of any exclusive line of foods. Mixed diet, then, is the best, and for ordinary needs the formula of Letheby is the best, viz., "The best proportions for the common wants of the animal system are about nine of fat, twenty-two of flesh-forming substances, sixty-nine of starch and sugar."

Sins Against Nutrition.

The most common sins against good nutrition will simply be catalogued here as a warning to a woman who would keep healthy. As has been said above, she should so inform herself as to make such sins an Impossibility. They are in varying order

of iniquity, according to the social status of the sinner.

1—The abuse of fried foods.

2—The poor cooking of vegetables.

3—The avoidance of fats in connection with the every-day meat meal.

4—The abuse of sugar on grain foods and in most articles of diet, both solid and liquid.

How to Reduce Corpulency.

While corpulency is really a disease and often requires a physician's aid in its treatment, it is so common and so particularly objectionable in a woman, that a few words of suggestion to those who have the necessary will-power and patience to treat themselves, will not be out of place.

Everyone has observed both fleshy and thin people in the same family, and in those eating the same food. The heredity of corpulency is therefore not the only cause. Careful notice of a family group will show that each member, consciously or otherwise, chooses foods that help on his or her bodily tendency to fatness or leanness.

The habit of fat-forming once established, increases most rapidly and leaves the over-fat woman far more uncomfortable than the over-fat man. The rational procedure for such a woman is to cut off every ounce of food that is unnecessary to the machinery of life, in other words, go hungry not infrequently, and exercise more, especially indulging in light gymnastics night and morning, with tepid baths every morning and a thorough rubbing thereafter.

All modern dieticians agree in having fat people omit the morning meal, taking nothing but water or hot water and milk, before noon. Those who desire only to "live while they live," gratifying their food desires, without regard to consequences, will never accomplish the reduction of fat, as much brain and will-power is essential to the weeks or months of dieting. The details of what foods are best can be found in many medical treatises upon obesity.

Diet for Debility and Anæmia.

The latter term implies a deficiency in either the quantity or quality of the blood.

Such conditions will not occur in the truly healthy woman, but may result in anyone as a consequence of illness, over-work or wrong habits of living. Every physician and most parents have observed conditions of bad nourishment and poor circulation, especially in young girls just coming into womanhood. It may be the pressure of school duties, with their long hours of study in school and perhaps late at night, or added to this, household cares or attention to younger children. At this age proper rest and outdoor exercise are absolutely essential to good nutrition. If, added to the above, the young girl has not a sensible mother or monitor at boarding school to advise her to keep her windows open at night, she will surely have headaches, be constantly tired, and finally lose her appetite and grow pale and thin. Such a girl is not in a proper condition to go on with her education, or even to enjoy life, with proper mental or moral poise, and should be placed under immediate and continuous treatment. Drugs alone, without some such advice as the following, will never cure such a condition.

*Other Sanitary Measures in Cases of
Anæmia.*

Plenty of sleep is the first absolute requisite. Let school, social, and all other duties give way to this great need, and let them keep off the main track, as a railroad man would say, long enough to bring back color to the cheeks by plenty of rest. On rising each morning a sponge bath with a thorough rub should be followed by a small glass of quite hot water, and no breakfast should be taken until the patient feels hungry, and then a very simple one. She should live out of doors, but must avoid any violent exercise, as horse-back riding, bicycling, rowing, etc. After a more hearty noon-day meal the patient should rest and have some cheerful companionship.

Somewhere in the dietary of this girl fat must enter, for without it the blood cannot be properly enriched. The common prescription of cod liver oil by the physician is meant to cover this ground, but all stomachs will not tolerate this, while all can assimilate such uncooked fats as cream, butter and olive oil, especially when introduced with other food.

CHAPTER IV.

HYGIENE.

"Better hunt in fields for health unbought
Than fee the doctor for a nauseous draught."
—Dryden.

No woman needs to be informed that cleanliness of the body is absolutely essential to perfect health. A sweet clean body is certainly more demanded in the gentler sex than in the more active bustling man. The odors of a body that has been sweating a great deal, or even the odors of confined perspiration, which is the constant invisible sweat, are never agreeable, and become less so the less frequently one bathes. Individuals differ greatly in this particular, the perspiration of some being much stronger than that of others. Women who are troubled in this respect should never wear dress shields, which only confine and concentrate, and must bathe more frequently in order to be cleanly. Any text book on

hygiene will state that baths are either general or local (partial), and that they differ widely in their effect according as they are very cold or very hot and according even to the intermediate stages of temperature.

The Cold Bath.

Not every woman can endure frequent cold baths. While it is true that the consequent contraction of the blood-vessels of the skin throws the blood into the internal organs and stimulates them to greater activity, the constant repetition of this stimulus is too debilitating for many.

However, if one notices no bad effect from the morning cold bath and rub, one may expect to be made by this practice free from colds and from cold feet, and start the day with more mental vigor. A person who does not react thus promptly and quickly feel these good effects, should not employ cold baths; nor should the very young, the very old, or those debilitated by disease.

The Warm Bath.

Warm baths are commonly taken for cleansing purposes, although they also refresh tired muscles, and slightly raise the temperature. The usual temperature of a warm bath is from 85 to 100° F., anything above that degree being "hot." Because a warm bath dilates the superficial blood-vessels, it depresses the functional activity of the internal organs, by thus drawing from their blood supply; hence its use for sleeplessness, for tired muscles and to soothe pain. Nothing exceeds the luxury of a full warm bath after a long hard day of either physical or mental labor. If the bather retires immediately and covers up warmly so as not to check the perspiration, the good effects will be promptly felt and most delicious dreamless sleep ensue.

General Hints as to Bathing.

However, too frequent warm bathing is debilitating. Probably every third or fourth day is often enough for most women, except in very hot weather, when once or even

twice daily does no harm. Whatever the temperature of the bath, the rule should be to dress or cover the body as quickly as possible after drying it, in order to prevent loss of bodily heat.

Warning Concerning "Medicated Baths."

Do not be misled by the numerous attractive advertisements of medicated baths, for all authorities fail to produce conclusive evidence to prove that anything can be absorbed by the skin in a bath. The natural oily condition of the surface of the body prevents even the absorption of water to any but the slightest extent. All the gains patients profess to obtain from the numerous medical waters of the world are due but to a very slight extent to the salts they contain, the principal advantage being derived from the temperature of the baths, the fresh air, good diet, etc., that are usually to be had for the price paid at such establishments.

Sea-Bathing.

This form of bathing is simply a cold bath in a strong solution of salt. The temperature of the oceans of the world varies from 60 to 70° F., while there is still greater range of salinity, from that of the Dead Sea with 227.69 parts in 1000, to that of the Mediterranean, with 40.7, the Atlantic, with about 36, the Pacific 34, and the Baltic, with only 5 to 9.

A sea-bath intensifies all the effects of a cold bath, the open air and the constantly moving water no doubt being the main factors. It is especially useful for those convalescent from disease, or those weak, pale and anæmic from any cause. Because of its stimulative effect, one sea-bath daily is sufficient, and some feeble women have to be satisfied with two or three a week only. The best time is at least two hours after breakfast and some time before 1 P. M. The bather must not stay in the water more than five minutes if she cannot swim, and not much more than ten if she can; she should then dry and dress quickly.

An excellent imitation of a sea-bath, and

one most useful as a stimulus to tired muscles, can be had by dissolving a double handful of evaporated sea-salt—not mineral salt—in hot water at the beginning of the bath, and gradually cooling the same as the cleansing process is complete, so that the latter half of the bath consists of a cool wet rub followed by a brisk dry rub, and prompt dressing or rest in bed.

Turkish Baths.

The great virtue in this form of bathing is in the intense sweating caused and in the good effects of the accompanying shampooing massage. A description of the bath is hardly necessary, for the opportunities for indulging in this luxury are numerous now in the cities. It is always best to allow plenty of time for a proper reaction, probably from two hours upwards for the whole process. Women with fatty or weak hearts cannot risk such baths.

The Proper Way of Promoting Perspiration.

The healthy woman, who desires to know how to best bring about profuse sweating,

i. e., the greatest amount of elimination, in the shortest time and in the safest manner, should know that Oertel, a great authority, gives the following best means in this order: climbing mountains, a certain well-known drug, the Turkish bath, and a vapor bath. He probably had not experimented with bicycling as a means of sweating, which exercise (see Chapter V), would probably rank next to mountain climbing.

Fanciful Baths.

Compressed air, sand, mud and other fanciful baths should not be risked without the advice of a physician. Remember that the main benefit from all artificial baths, even the electric, consists in their heightened temperature and nothing else. The cabinet baths, that have recently become so popular, are most excellent for certain diseased persons, notably the rheumatic and gouty, but need to be used under the same restrictions as given above for warm baths, and even more carefully, since they are more enervating. Healthy persons do not need

them, and the sick should use them only under medical advice.

Habits of Eating.

Here again custom governs us all to an unnecessary degree. Many women who must work for a living take an early and hasty breakfast, a hurried luncheon, and arrive at a hearty dinner too tired to do it or their bodily needs full justice. There is no remedy for such, except so to arrange their day as to get more time for eating. The woman who eats slowly, if but a frugal meal, and who chews it fully and does not hurriedly wash it down with some fluid, gets more benefit from her food, and has more strength, than one who may have a much more varied but hastily swallowed meal. If an early meal is necessary, it should usually consist of a dish of well-cooked grain, a cup of chocolate, or black coffee (without sugar or cream), toast, rolls or bread and butter, fresh fruit, and, if hard work is to be done, some crisp bacon, eggs or chops, or steak and potatoes (not fried). With this, eaten in from twenty minutes to half

an hour, amid pleasant surroundings and agreeable companionship, a woman is ready for the morning's work. Even if her lunch consists of only crackers and a glass of milk she can get through until dinner time.

Right and Wrong Ways.

If no meat was taken in the morning or at noon it should be plentiful at dinner time. It is the way food is taken that gives it value, even more than the quality. The very best of food in the greatest possible physiological variety, if crowded into a tired stomach, is of little use for nourishment, for the extra effort of nature to take care of it offsets its nutritive value.

Temperance in eating at all times, pays either the woman or the man, but even more the former because her surroundings and habits do not enable her as well to exercise and use up the surplus. But very violent or continued exercise should not be taken after eating even a moderate meal.

The Demands of "Society."

Those women whose social life keeps them up late, and who therefore sleep late, should, if possible, begin the day with a cup of coffee and toast the first thing on rising, and take a hearty breakfast about noon, and the heaviest meal of the day about 7 P. M. Few can do this; nor is it possible to lay down hard-and-fast rules for all.

The advice which any physician can give with regard to this subject narrows down, after all, to the above suggestions as to moderation in the act of eating, temperance in the quantity of food taken, and the need of sufficient exercise. With these, and such dress as will not interfere with easy digestion, no woman will ever become dyspeptic.

Care of the Body.

Perhaps the very first thing asked by the physician whom one consults for almost any ailment is concerning the regularity of the action of the bowels. He knows, and the patient should also know, that this is a prime necessity of health and even of life.

Everyone does realize this to a certain extent, but women, generally, are probably not aware that they are decidedly more subject to constipation than men, more than nine-tenths of American women being said to suffer from it. This not being a strictly medical treatise, is not the place to tell of all the evils of this condition, for insufficient daily movements of the bowels are undoubtedly the cause of many diseases. However, many of the conditions leading up to it in women are easily avoidable, and a proper theme of this chapter on hygiene.

The Results of a Sedentary Life.

For instance, the woman who is over-taxed with household cares and anxieties, who is socially overwrought and wearied, or passes her time in indoor indolence, has little muscular strength remaining for these natural uses. In other words, sedentary life, so-called, takes her from proper exercise, strains the nervous organism and leaves her too weak for the natural bodily functions. Not only highly seasoned foods and stimulating drinks, but insufficient food

and drink also produce sluggishness of the bowels. The ordinary white flour is an instance of insufficient food, in that it abounds in starch rather than gluten, and, when eaten exclusively in bread stuffs, causes indigestion and constipation. Tight garments that restrict respiration and therefore also impede digestion, as well as an excess of clothing in the abdominal region and too little on the extremities, also conduce to the same evil. Cathartic drugs, when too long continued, defeat the very purpose for which they are taken, by making necessary increased doses to bring about a movement, until no drug stimulation will avail.

The Value of Regular Habits.

The mere mention of these chief causes makes obvious the remedies. But above everything in this matter a regular habit of evacuation at a certain time of the day should be formed and adhered to rigidly, except for excellent reasons. Oftentimes so simple a remedy as a few tablespoonfuls of bran in milk or water before breakfast, or a teaspoonful, or even half, of salt in cold

water at the same time will prove entirely curative. Generally, however, if constipation is persistent, one's habits of life and of eating must be thoroughly changed and continued in proper physiological order, if one would keep healthy in this particular.

Care of the Hair.

Fashion dictates much in this particular that good sense and proper physiology cannot endorse. Old portraits, fashion plates and pictures, abundantly show how fickle and senseless many fashions have been. The hair was for generations twisted and tortured into all sorts of shapes, or smothered under wigs, false hair, powder and various artificial additions to the toilet, until nature was scarcely able to recognize herself. Woman's hair is undoubtedly her great glory and should be becomingly dressed and so arranged as to increase in every way the beauty of the wearer. If one is blessed—as most women are—with abundant hair, the simpler it is dressed, the better for its beauty and permanency. If the hair is curled and crimped, dragged and pulled

upon, daily or frequently, nature finally rebels and the hair grows less luxuriantly, and at last falls out.

The Best Way of Wearing the Hair.

The simplest mode of wearing the hair is always the best from childhood up to age, i.e., combed and brushed smoothly back upon the top of the head, parted or not, as may be most becoming, or, with regard in this particular to the prevailing fashion, gathered into a loose coil or braid at the back of the head. Custom and propriety makes the girl wear a pendant braid. Women whose hair is grown and who wear a coil use large hairpins, preferably those of rubber, bone, or celluloid, i.e., with absolutely smooth surfaces. The ordinary hairpins, if used at all, should be discarded when they show the least rusting or abrasion upon their enamelled surfaces.

How the Hair is Injured.

For comfort and health, as well as for the preservation of the hair, care should be

taken in doing up the hair not to drag upon it, or draw it into unnatural positions, as pulling it forcibly either backwards or forwards and keeping it in extreme tension. The professional hair-dressers, in seeking after certain fashionable or supposedly artistic effects, are liable to forget this, and even the woman who carefully dresses her own hair may injure the hair by too frequent manipulation, or cause a headache for which she has no ready explanation. If a woman's hair curls naturally, she should be thankful and dress it accordingly, but if not, she only shortens its life and brings herself nearer to "false-fronts," wigs, etc., by singeing and squeezing it between hot irons, hot pipe stems, or twisting it up in curl papers. All these things are done daily, but they are not sensible proceedings upon the part of the healthy woman for whom this is written.

Shampooing the Hair.

A great many men, and some women, fall into the habit of daily sousing the head with cold water. Nothing could be more

pernicious for the integrity of the hair. Water is not harmful in itself, but the scalp is not usually properly dried afterwards; and without the application of oil to take the place of that removed by the water, the wet hair cannot be properly brushed and soon falls into a chronic condition of dryness and brittleness, and finally one that leads to baldness. A woman should be like a cat in her dislike to having water touch her hair, except for the necessity of occasional thorough cleansing of the scalp by the shampoo. This is necessary to avoid the stopping up of the hair follicles by dirt, i.e., foreign matter, and the consequent irritation of the scalp. A shampoo is more frequently necessary in children than adults, and the periods of its application should vary from a week to two, to three or four, according to the exposure to dust, etc. The cities, with their smoke and soot and fine dust of all sorts, make the shampoo an increasing factor in personal health and cleanliness.

The Proper Way of Treating the Scalp.

The shampoo at home or in the professional parlors, is properly performed as follows: With some good glycerine soap, fine castile or German green soap (liquid) and plenty of warm water, make a good lather on the head, and rub it in vigorously, preferably with the fingers, or with a rather stiff long-bristled brush. If the skin generally or the scalp is very sensitive to irritants, and glycerine is such to some, boric acid (three table-spoonfuls of the powder to a pint of water) may be used instead of soap, or the yolks of three eggs beaten up in a pint of lime water. When the head has been thoroughly rubbed with this lather, wash out the lather with plenty of warm water.

A Plan for the Home Shampoo, and Necessary Precautions.

The barber-shops have an ideal arrangement, with a short rubber tube and spray attachment, which is quite feasible and inexpensive in any modern bath-room. If this is the plan adopted, the tube should be

changed from the hot to the cold faucet until all soap, egg, etc., is washed from the head. Then the scalp should be dried with a good bath towel, and the drying process for the hair completed before an open fire, or in the sunlight, or by an electric fan, the latter being the quickest and most thorough way. This drying must be complete before dressing the hair and that should not be done before first rubbing into the scalp (not on the hair), some sweet almond oil, or white vaseline. This is best done by parting the hair and rubbing the oil along part after part until the whole scalp is gone over. The more thoroughly this is done, the better will the hair recover from the necessary loss of its natural oil by the washing process, and the sooner resume its natural oiliness. Should there prove to be an excess of oil, it may be removed by gently pulling the hair between the folds of a towel, moistened with cologne water.

The complete and proper process of shampooing takes much time, as every woman knows, but is very essential to the healthy growth and permanency of the hair, as

much so as bathing and cleanliness are to the rest of the body.

Brushes and Brushing.

The proper use of the comb and brush is of far more importance even than washing the hair, and much more care should be given to the selection of these common toilet articles than is usually bestowed.

Brushes are most often badly made, being fashioned to look pretty rather than to perform their true function. A properly made brush has its bristles placed in little clumps or groups in such a manner that the middle bristles of each group are longer than those along the edges. These groups should be wide apart, and the bristles well set into the back of the brush. This description applies to the ordinary stiff brush used by adults, which brush should be used systematically each morning with considerable vigor, so as to produce a feeling of warmth and comfort all over the scalp, and brush out all particles of dandruff or foreign matter lodged in the hair. Every part of the scalp should be gone over with this brush,

and thereafter during the day only a soft brush used in parting the hair and giving it smoothness and gloss.

Soft and Stiff Brushes.

The soft brush should be such a one as is used for an infant's scalp, one with long soft bristles incapable of scratching or irritating the scalp. Two brushes then, one stiff and one soft, are really necessary to the proper care of the adult head, and after the use of these the hair should lie properly and smoothly, without the aid of water or pomades; except in possible malformation, or so-called "cow-lick," when oil is often necessary to perfect smoothness. Brushing should never be continued so as to cause soreness of the scalp.

Combs and Combing.

The office of the comb is to open up the hair so that the brush may reach all parts of the scalp. to part the hair and to disentangle snarls. A properly made comb has long thick, wide, perfectly smooth teeth, set

wide apart, with well rounded ends. In choosing a comb, hold it up to the light and discard it if any roughness or irregularities are seen upon the surfaces of the teeth, for such a comb would catch and tear the hair.

Fine-toothed combs are abominations and dangerous instruments in the toilet case. They have no use on an infant's scalp and should never be used on any scalp, except for the removal of parasites. If your comb has both a coarse and fine part use the latter only to disentangle the hair, but mainly the former, and then only as an assistant to the brush in the systematic morning toilet.

Head and Hair Covering.

Both air and sunlight are necessary to the growth and healthy maintenance of the hair, although constant exposure to the direct rays of the sun will fade it to a greater or less degree. It is hardly necessary to say that a woman's hat should be ventilated, for these wonderful "creations" are seldom so made as to completely shut off a circulation of air from the scalp, as with men's headgear. Sweating of the head and hair

by any covering is always to be avoided. The wearing of false hair, "water-falls," wigs, etc., is fatal to what little hair may be left. If a woman's hair is short and scanty, it is better to wear it cut short, and endeavor to stimulate its growth by attention to the scalp, than to assume a beauty not possessed, by wearing false braids, which drag upon the feeble hair and render it more weakly by sweating of the scalp.

Night caps are a survival of the days when our ancestors took their life in their when our ancestors took their life in their into their ice-cold bedrooms and they are only necessary now on bald and sensitive scalps. Wigs are only allowable where the hair is actually gone, and this should not be in a healthy woman who has used good sense in caring for her head and scalp.

Hair-Cutting.

This heading apparently has no place in this treatise, and is only introduced because of the bearing hair-cutting has upon the proper growth of a woman's hair. The hair of both girls and boys up to their seventh or

eighth year is very sensibly kept short, because the growing hair is a drain upon the nutrition of the body, and something of a hindrance to the forces that should be expended in muscles and bone.

After about the eighth year, a girl's hair should be allowed to grow, as frequent cutting renders it coarser. But if for any reason her scalp and hair cannot be properly cared for, she will have a better chance for a good head of hair in later life if it is cut when still young. Fashion should not be allowed to interfere with such matters in a growing girl.

The Effect of Illness on the Hair.

If a continued illness, such as a course of typhoid fever or any other serious disease, causes the hair to become thin and fall out in greater or less quantities, it is better to clip it quite short at once as soon as the final loss becomes inevitable, and thus give the new hair an opportunity to grow in early while convalescence progresses. Some weeks are thus gained, besides the greater comfort of caring for the sick one with

short rather than with long hair. Except very late in life, the hair will come in again and be as long as before.

Some good dermatologists advise the early disentangling of the long hair in severe illness, and careful braiding as a means of saving it. If this can be done without wearying the patient, a little at a time, with oil, soap and water, and the fingers, it is worth trying, and will be a very refreshing process to the patient. But the above advice is more generally applicable and more often the means of finally securing long hair again.

Among the long hairs of women careful observation will disclose many that are split at the point. These ragged hairs should be cut off above the cleft, as should all other thin and weak hairs near their bases, in order to improve their strength. Constant vigilance is the price of a good head of hair, as well as of other things.

Hair-Dyes and Pomades.

Punch's advice to the man about to marry applies most aptly here, "Don't." An excel-

lent authority upon the hair says in regard to hair dyeing: "No known means exist whereby the color of the hair can be influenced in its development. The action of hair dyes depends upon a chemical effect produced upon the tissue of the fully-developed hair, which effect in properly made dyes is not produced upon the epidermis (outer layer) of the skin. As the skin grows daily, the dye is scarcely dry upon the part which appears above the surface, before a new undyed section of hair pushes up from below, and the operation of course must be frequently repeated."

This shows the fallacy of dyeing and bleaching the hair, and those who have observed the gradation of color upon such heads will carefully avoid such mistakes upon their own.

Pomades are unnecessary to a scalp cared for as detailed above. They are dirty, soil everything with which the wearer's head comes in contact, may become rancid and foul, unless strongly perfumed, and are not under any circumstances allowable, except for a diseased scalp, and then under a physician's directions. Avoid all greases recom-

mended as specifics for baldness or gray hair, for they are commonly useless, and may be actually harmful. The use of lead and other strong mineral poisons, essential to a chemical change of color, is not infrequently followed by nervous and other symptoms of impaired health.

CHAPTER V.

EXERCISE.

"The wise for cure on exercise depend,
God never made His work for man to mend."
—Dryden.

Montaigne says, "'Tis not a soul, 'tis not a body we are training, but a man, and we must not divide him;" and the great Frenchman evidently meant to include the healthy woman also in this aphorism. There should always be a happy mean between mental and physical culture, neither too much of the one nor too little of the other. If a woman would live to be of great use in the world, to bless her children, and her children's children, she must so order her bodily training that it may not fall behind the mental. The finest mental development, with very few exceptions, is never of full value, nor leads to complete success, without bodily vigor. Sound physical health enables a woman to work with vim and

freshness, to pass unharmed her necessary periods of great pressure, to withstand worry, and even actually be entirely freed from it, and to preserve equanimity of mind and be able to always press forward when others fall exhausted by the way. Such a life is the birth-right of every woman if she has a fair inheritance and gains help and knowledge at the right time in training the body and keeping it in good health.

All healthy bodies need exercise. Muscles grow only by exercise, i.e., simple use. Those that are unused waste, and become flabby and finally useless, as everyone has observed to a degree after a few weeks' lying in bed for any reason, even without wasting fever or disease.

Influence of Exercise on the Nerves.

The popular idea of muscular exercise is development of the muscles of the limbs, but physiologists know that true exercise involves the muscles of the heart and arteries, those of breathing, and of all parts capable of movement; and with such general muscular exercise goes necessarily activity of

the whole system and especially the organs or secretion and excretion, that is, chiefly, the skin and kidneys. A noted physiologist has also demonstrated that the most marked influence of physical exercise is upon the nerve centers, because in every bodily movement of a composite nature the centers of the brain and cord work to secure the result and are exercised at the same time.

Abundant statistics show that in both men and women strength of body and mind certainly work together for mutual advantage. A certain amount of general exercise is strictly essential to life; indeed, undue rest means rust or decay, and continued absolute physical rest nothing but death. Physical perfection is never artificially attained, but each tissue must be systematically built up by proper and accurate exercise. To learn how this may be done, or how the various occupations and pleasures of life may be safely turned to a woman's physical advantage, is the object of this chapter.

The Perfect Female Form.

Anthropometry, or the science of the measurements of the human body, has a large literature of its own, beginning with the earliest known Sanscrit manuscript down to Roberts's "Manual of Anthropometry," the recognized modern authority. By its rules, as finally established by the combined wisdom of artists, sculptors, anatomists and mathematicians, the relative proportions of the perfect female form may be stated as follows:

"With a height of five feet five inches, one hundred and thirty-eight pounds is the proper weight, which, however, could be increased ten pounds without greatly destroying the proportion. When her arms are extended, she should measure from tip of middle finger to tip of middle finger just five feet five, exactly her own height. The length of her hand should be just a tenth of that and her foot just a seventh, and the diameter of her chest a fifth. From her perineum to the ground she should measure just what she measures from the perineum to the top of the head. The knee should

come exactly midway between the perineum and the heel. The distance from the elbow to the middle finger should be the same as the distance from the elbow to the middle of the chest. From the top of the head to the chin should be just the length of the foot, and there should be the same distance between the chin and the armpits. A woman of this height should measure twenty-four inches about the waist, and thirty-four inches about the bust if measured from under the arms and forty-three if measured over them. The upper arm should measure thirteen inches, and the wrist six. The calf of the leg should measure fourteen and a half inches, the thigh twenty-five and the ankle eight." (Keating's "Cyclopædia of Diseases of Children.")

Some of the means by which a woman may attain, in some measure to this supposed perfection are to be found in the various forms of exercise detailed below.

Posture.

Whether standing, sitting or walking, a woman's posture means much in general

relation to her health. She should early form the habit of holding herself erect, with the abdominal muscles drawn in, and if standing or walking the ball of the foot first upon the ground. This posture is an anatomical necessity to keeping the internal organs in good position, and the reason why high heels and tight corsets are a physical abomination for women, since they actually throw these organs out of their natural perpendicular.

In sitting, the real objection to leaning either forwards or backwards is based upon the same fact of hindrance to free internal circulation, as resulting headaches and frequent abdominal distress commonly prove.

Walking.

This, the most usual, simple and easy, and at the same time perhaps nature's very best form of exercise, is suited to all ages and all the stages of development of women. It requires no apparatus, except that specially designed by nature for the purpose, and can be enjoyed almost anywhere and at

most times. Not only the muscles of the legs, but those of the loin, back and abdomen are used in this exercise, for the walker must keep erect and breathe deeply, as well as keep in motion.

How to Get the Most Benefit from the Walk.

A series of photographs by Mr. E. Muybridge, of Philadelphia, has beautifully shown that not only forward, but lateral and vertical, movements enter into proper walking, and that the ideal walker reduces the lateral and vertical movements to a minimum. Walking, in order to be of use as an exercise, should be brisk, for the above-mentioned photographs show also that in slow walking there is a period when both feet are on the ground together, just the opposite being true in rapid walking; hence the greater fatigue of the former exercise. A woman does not get the full benefit of this mode of motion if she does not keep the head erect, the shoulders well back, and consequently the lungs in full action. Full deep breathing is a very essen-

tial part of walking, as of any valuable exercise.

Few persons, especially among women, are so dressed (see chapter VI.) as to be able to breathe properly and therefore walk rapidly; nor are there many graceful walkers among women. Walking, in order to mean anything as an exercise, should not be purposeless, but should be directed towards a definite goal of place or time. A certain robust gentleman of Minneapolis, now in his seventh decade, has for years varied his city walk by a certain fixed number of extra blocks to and from his office each pleasant day, until his knowledge of city localities is unrivalled and his vigor and health exceptional. There is no good reason why a woman going to and fro upon any stated occupation might not do the same thing.

Any game or sport, as golf, tennis, or shooting, which involves much walking is healthful exercise, if not carried to excess. Walking contests are not suited to women for many reasons, chiefly because they are simply questions of staying qualities and do not necessarily increase one's ability to walk properly.

Running and Jumping.

While both of these forms of exercise are excellent for employing all the muscles of the body, and especially for strengthening the chest and heart, they are far better suited to young men than women. Jumping certainly is a mistaken exercise in most girls after the age of puberty. Skipping with the rope is a very popular and ordinarily safe form of exercise for young girls. It is simple, graceful, and employs nearly all muscles. If practiced upon the lawn and not on a hard stone pavement, and not too long (for girls have dropped dead from overtired hearts during this exercise), it becomes a very perfect way of combining exercise and recreation.

Skating.

This ranks second among out-door recreations (being a modification of walking), principally because it is feasible at a time of the year when little outdoor exercise is possible, and at the same time when none presents more exhilarating and healthful as-

sociations. It is particularly adapted to woman, calling into play, especially in the necessary balancing, a great variety of muscles, strengthening the ankles, and affording an easy and graceful carriage, if long practiced. All that might be said of skating applies equally well to roller-skating, and accounted largely for the widespread popularity of that healthful recreation, unfortunately so soon forgotten.

Horse-Back Riding.

This recreation and accomplishment is not within the means of most women, but where it is, is a very healthful one. Young girls should be early and well taught, and if they can continue the practice regularly, nothing will better strengthen the spine, by teaching good balancing, or improve the circulation of the liver and the internal organs generally. Hence horse-back riding is most excellent for dyspepsia and constipation. The young girl should be taught to ride upon either side, in order that constant riding in the same way may not induce lateral curvature of the spine, and she should

not be given so tight-fitting a costume as to entirely spoil the good effects of the exercise, or too long and heavy a skirt, which may in case of accident actually endanger her life.

Rowing.

This is another form of out-door exercise involving most of the muscles of the body, especially those of the back and upper and lower extremities, and is for women quite ideal. Nothing excels the sheer pleasure of a light boat, adapted to the muscles of the rower, a stretch of fair water, a fair summer day, and all the concomitants—the sharp resistance of the water, the swish of the oars, the rippling of the water against the bow, as the boat moves onward with each individual stroke as though part of the rower herself. It is not enough to simply pull the boat along, with utter indifference as to looks or manners, for to row correctly is to row easily. The more accurately one is taught, the better the style, ease and pace of rowing, and the more beneficial the exercise.

Swimming.

Every girl should be taught to swim as early as eight years, if surroundings will permit. It is an exercise easily learned, and once learned is never forgotten. The human body, like that of all animals, is lighter than water, but most children do not "take to water like ducks" because the horizontal position, so natural in the usual locomotion of animals, is to them a new one and involves a new combination of muscles. After the first nervous agitation of being in the water is overcome, and the ill-directed movements of the limbs are harmonized, each essay in swimming becomes easier, until the exercise is a great delight.

Like other exercises, and even better than walking, skipping or rowing, swimming strengthens the arms, which tire first, and the chest muscles, i.e., those of respiration. Swimming also strengthens the back, besides affording freer movements of the lower limbs than most other forms of exercise. The salt water is of course the ideal place for swimming, but fresh water is not to be despised in lieu of the other. However,

more caution is necessary in the latter in the matter of frequency and length of the exposure. Salt water being more buoyant and exhilarating, can be enjoyed longer at a time than fresh, without danger of chilling or exposure. Three hours after the meal should be the rule for the time of swimming in fresh water, the afternoon being probably better than the morning. Chilling, blue lips, or signs of fatigue or any bodily distress should cause immediate withdrawal from the water.

Bicycling.

Many women have been charmed with this method of exercise, mainly because it entices them out of doors, exhilarates by rapid motion and change of scene; and very few have been harmed by moderate indulgence therein. Not only does it exercise the body, but also the mind, by requiring certain skill and attention and calling into play confidence and decision. It certainly has proven curative, when persistently and sensibly practiced, of constipation, liver complaints and various forms of dyspepsia. The

disadvantages for women are mainly found in their faulty position in riding and in badly-adjusted seats. The erect position is the only correct one for women, from either the healthful or the aesthetic standpoint. To this position, high and not too wide handle-bars are necessary, the rider grasping the handles with the arms slightly flexed and the elbows close at the sides.

The Bicycle Seat.

A seat, rather than a saddle modelled on the equestrian plan, is the proper support for a woman, because it does away with any possibility of local irritation. This seat should be adjusted well forward, nearly over the crank-axle, and at such a height that with the ball of the rider's foot on the pedal at its lowest point, the foot will be in extension and the knee slightly bent. Too low a seat not only crooks the spine, but obliges the woman to make a high, ungraceful "walking-beam action" of the knee, with too much skirt motion and too little of the ankle. The new rider soon learns that other

muscles than those of the limbs are involved in the exercise.

The Muscles Used.

In the first attempts at riding the muscles of the back are nearly all employed in balancing the trunk of the body and in keeping it in an erect position, while the muscles of the arms are too much employed in managing the handle-bars. After experience, this expenditure of force is equalized among many muscles, and the actual development of the muscles most used follows gradually, viz., those of the thighs and legs. Cycling, in clothing that does not constrict any part of the body, and in moderation, will not only strengthen a woman in the above particulars, but will also increase the vigor of her abdominal muscles, her breathing capacity, and stimulate her circulation and her general nervous system. However, no woman should ride during her menstrual period or during pregnancy, nor too fast or too far at any time. It is better to walk up steep hills, or indeed almost any hill, and

always recognize the natural limitations of sex and strength in long rides.

Dancing.

This delightful method of exercise is catalogued here at the end of the list, because it seems unnecessary to emphasize what should be taught every young girl without exception. Not only the graces of deportment, to some extent, but those of posture, carriage and gait, are perforce a part of the training of dancing. The dancing master not only tells his pupil not to look at her feet and to keep the shoulders back, but he should also—and generally does in good private classes—instruct her to carry the chest high and forward, the abdomen in and the hips back. A normal standing position does not give prominence to the abdominal walls, but rather to those of the chest. The real evils of dancing from the health standpoint consist not in the intoxication of the music, nor in the association of the sexes, but in the accepted accompaniments of late hours, overcrowded rooms, late suppers and exposure in unsuitable clothing. If a woman

takes pains to minimize these evils, dancing becomes a source of both pleasure and health, and one particularly adapted to her sex.

CHAPTER VI.

DRESS.

"Unadorned,
Save by her youthful charms, and with a garb
Simple as nature's self."

—Whittier.

As to the æsthetic aspects of dress, every woman is a guide to herself, for there is no disputing about matters of taste. But some things may be safely said, especially from the standpoint of the healthy woman. Supposing that "cleanliness is next to godliness," the same relation should subsist between cleanliness and healthfulness. The simple, mainly white, clean costume of the nurse or dairymaid, suggesting absolute cleanliness and purity, cannot be improved by any amount of ornamentation. And no matter how much the additional bedeckings, no costume will look well if it is not kept clean.

Women who have not ample means, are, even in so-called democratic America, too

much given to copying the dress of those who have abundance. Such imitations are never in good taste. Let every woman dress as becomes her means, and she will be well dressed. Taste and cleanliness are not prerogatives of any particular station in life.

Common Sense Versus Fashion.

It should be a rule of common usage, based upon sound æsthetic and hygienic principles, that the outer clothes of those who work for their living should be made of washable materials with a smooth surface. And such is the custom of most indoor workers among women. Even the dressing of the hair should suggest cleanliness, and not by its being tumbled suggest dust and difficulty in combing, as well as a supposed artistic effect. Truly artistic clothing will suggest only health and comfort. It should be loose, light and suited to the season and climate. All attempts at using the costumes of other climes, no matter how artistic, will never succeed in these latitudes.

In this commercial age, the selection of clothing for both men and women is gov-

erned far oftener by fashion, which is too frequently based upon caprice and passing fads, than by the probable effect upon health. The question of fashion on the one hand, and price on the other, enters nowadays more largely into the consideration of what one shall wear than ever before, and places the really important considerations of hygiene and health far in the background. However, from the standpoint of the hygienist, these considerations are always simple, elementary and reasonable, and should be understood by every woman. The objects of clothing, aside from moral and artistic questions, which need not be more than touched upon here, are as follows :

1st. To maintain normal bodily temperature, by protecting the body from heat, cold, wind and rain, and by preventing the loss of animal heat to diminish somewhat the demands for food.

2nd. To allow the chief heat-regulating mechanism, the evaporation from the skin, to proceed with as little hindrance as possible.

3rd. To allow all muscular acts the greatest possible freedom, and, a most es-

sential feature with women, to avoid any compression of the body.

Heavy Clothing.

Most people wear too heavy clothing, both summer and winter, thus keeping the body too warm, promoting too free sweating, and rendering the skin most of the time too moist and more open to chilling and too great reaction from changes in the temperature. The frequent colds and coughs of both summer and winter, or more accurately, of both spring and fall—for they are then far more common—all have their origin in this error of dress. The sensible person will, therefore, avoid undue weight of clothing at all seasons.

Underclothing.

This, from the hygienic point of view, is by far the most important part of all dress, and should, of course, vary with the season, in this temperate zone, from the thickest flannel to the thinnest gauze. Wool is the best material for all seasons, because it is a

bad conductor of heat and a great absorber of water. Underclothing should conform to the contour of the body, but not so snugly as to compress the chest, arms, abdomen, or any part, or impede any free movement. "The combination suit," consisting of one garment for the whole body, has many advantages over the older two-piece arrangement for women, the main one being its avoiding the compression of the abdomen by the drawers' band, and the doing away with two or three layers of material around the loins, and its easy adaptability to all necessities.

Some Objection to Woolen Garments.

Women often object to woolen undergarments at all seasons of the year, with the assertion that they cannot wear them next to the skin because of the itching they produce. Fine woolen, or merino, garments usually obviate this difficulty in a week or two, and the attempt to wear them should be made by all those disposed to rheumatism, or any form of kidney trouble, if they would preserve their health. Some few really cannot

wear them at all. Such persons are usually robust, and full-blooded, and not prone to chilliness, and if in need of more actual protection than cotton affords, should wear wash-leather over silk.

Still greater objection to flannels is their liability to shrink in washing. This drawback can be greatly reduced, as every good housewife knows, first by "shrinking" the cloth before it is made up, or by washing the garment carefully in cold or tepid rain water, and thoroughly drying it in the sunshine if possible.

The changing of underclothing depends upon the state of the wearer's skin and the amount of sweating, which of course varies with the seasons, and greatly in each individual. If one cares properly for the skin, that is, bathes and rubs thoroughly each day, the underclothing can be worn at least seven days, without disagreeable odor. But unusual sweating and exercise should modify this rule.

Outer Clothing.

Here the choice depends primarily upon

the three cardinal principles given above. It would seem as though generations of evolution had quite perfected woman's attire, yet some things could be modified, and probably will be, to her great physical advantage. She may yet be emancipated entirely from skirts, and dress more sensibly.

In the selection of wool fabrics, experience teaches the following requisites: smoothness, softness, close texture or "weave," and, on more minute inspection, hairs of equal length, not long and straggling. A good piece of cloth will show uniform texture when held up before the light, will give a clear ringing note on stretching, and will possess definite "tearing power" according to the amount of wool in it.

A woman's clothing should not compress her too closely anywhere, should be light, warm and supported from the shoulders. All skirts, whether wool or silk, should be light and fastened by buttons, rather than hooks or pins, to the bottom of the waist. The term waist brings up the whole question of stays or corsets, about which question, even from the strictly scientific or health view, there may be two opinions.

Hot-Weather Clothing.

In summer, ventilation of the clothing is also essential, i.e., goods should be of loose texture, loosely fitting, without contracting collars or bands, thus permitting free access of air and escape of perspirational vapor. Every woman, accustomed to exercise that deserves the name, has experienced the feeling of oppression that arises from excessive confined steam-like perspiration. Hence the sweater is the ideally ventilated garment for the athlete, basket-ball player, etc., its loose meshes permitting the skin to dry rapidly without becoming cold.

Our temperate zone, with its changeable climate even in summer, makes it necessary to seek protection against sudden changes, for which purposes light loose-mesh woollen garments are probably the best. Whether these or, as some prefer, cotton, linen, or silk are used, the most important feature is frequent changing of the same. Next to bathing, these changes are essential to keeping the skin in a condition to fully eliminate all waste matter. In hot weather in the shade, then, cotton or linen clothing is the

most comfortable, but in the sun, color is of more importance than texture or material, white being by all means the coolest. Dark-colored clothing, especially of woollen material, absorbs and retains odors more readily and persistently than light-colored clothing of the same material and texture.

Corsets.

The accounts, occasionally seen in medical journals and in old prints, of deformed ribs and spines from the use of corsets are no doubt true. Common sense agrees that any undue compression of the waist would most certainly work mischief. Especially in a growing girl, around the age of her maturity, if corsets are put on so tightly as to prevent the action of the breathing and abdominal muscles, evil will surely result. The heart, lungs, liver and stomach are crowded upwards, and the intestines forced downwards, with consequent discomfort after meals, increasing symptoms of poor digestion in both stomach and bowels, and finally actual anæmia. This is not a common picture fortunately, but a true one,

nevertheless, in many cases; only it should be said in all justice to the abused corsets, that with such a foolish mistake in dress generally go many other errors—of diet, of sleep, late hours, and the consequent unnatural excitement, all of which tend to increase the conditions outlined above.

The chief defense of the use of corsets is that they are necessary to the support of the petticoats and skirts, since fashion decrees that they shall not be supported from the shoulders, as in little girls and as all the clothing of men is supported. In the "full dress" of women everything hinges upon the waist and makes a corset an absolute necessity. Fortunately "full dress" is not constantly worn, and therefore many women modify the dictates of fashion, or obey them in part, by using a waist, i.e., stiffened undergarment, without steels or whalebones, from which the clothing may be hung. Waists are a most sensible article of clothing for young girls before the bust develops, being the most convenient and healthful means of supporting the skirts and the stockings, and being still supple enough to admit of free muscular movements. The

"bust girdle," a sort of short corset with shoulder straps, is an advisable hygienic substitute for corsets for older women.

Shoes.

No other article of clothing influences a woman's comfort more than her shoes. She must select them mainly for comfort in her work or recreation, yet must ever have in mind their appearance on her feet. Leather has come into universal use as the best protection for outside service, and may be varied in color and decoration to suit fashion or the wearer. Its essential qualities are pliability, and it also absorbs and slowly gives off the perspiration. Durability, of course, and a high degree of ability to shed water are also reasons for preferring leather. Absolute impermeability, as in patent leathers or rubbers, is an extremely undesirable quality for long walks, as every one knows. Canvas (lawn-tennis) shoes have none of the durability of leather ones. Rubber soles and heels are of great advantage on the stone pavements and smooth floors

of the cities because of their resiliency and noiselessness.

How to Secure a Proper Fit.

The prime necessity in a shoe, after all has been said of material and finish, is that it fit the foot. Without this the most expensive are a torture and a positive damage to one's health and disposition. Most shoes nowadays are machine made, with so many modifications of size and shape, that one can in a large stock find an accurate fit.

However, if one would have strict comfort and a thoroughly serviceable article, outwearing three pairs of machine-made shoes, one should have a good boot-maker build a pair of shoes upon the diagram of the foot, outlined while the customer is standing. Few, however, think they have time or money for this nowadays.

A well fitting shoe allows the foot room to move in it, without being loose, and such a pair of shoes when new will admit of free motion of all the toes. Fully as important is the proper fitting of the upper over the instep and about the ankle. There should be

no unpleasant or painful pressure of the foot, when standing, towards the toe of the shoe, and reasonable tightness about the ankle is quite necessary to the support of that joint through all the vicissitudes of daily life. Many a sprain of the ankle, in an unexpected emergency, has been avoided by a snugly fitting shoe.

The Evils of Ill-Fitting Shoes.

Ill-fitting shoes produce actual deformities, especially early in life, mainly those all-too-common ones known as corns and bunions. It is no doubt ideal, although neither fashionable nor even respectable, according to modern notions, for children to go entirely without shoes during their periods of active growth. Such children later in life seldom have the above ailments, chilblains, or any other evidence of tender feet. When shoes are a necessity the child either grows out of them or wears them out too quickly for the purse of the parents, and through the resulting bruising, compression or distortion, the foundation of much trouble is laid. Growth of the feet does not

stop much, if at all, before twenty years of age, and sometimes continues after that period. During youth, then, the young girl or woman needs particular attention in this respect, if she would have both comfort and good appearance later in life.

Shoe Soles.

The sole of a shoe should be a little wider than the foot, as protection from rocks and loose stones, and should vary in thickness according to the work to be done. Some thickness is always best, and those soles wear best that consist of layers of leather, and not of middle or intermediate layers of some inferior material that will readily absorb moisture.

The outside of the heel and the inside of the toe are the normal points of wear in a shoe, the center of the shoe being the third, and the tendency being to bear more upon the outside of the whole foot. If a girl's shoe shows constant wear off these cardinal points, something is wrong in the muscles about the ankle or in her general development.

Shoe-Heels.

These additions to the shoe are not defensible as a means of progression, nor are they called for by the form of the foot, but they serve as aids to keeping the feet dry by bringing them farther from the ground, to prevent splashing in the wet and mud, and as a means of economy in wear, for the heels of shoes wear out first. Whether raised or not, heels have been used for generations and probably will be for many more.

Heels should be broad and low. The fashion of very high heels has no defense in science or sense, neither now or in the past. The only reason for their persistency as a fashion among women is that by raising the hind part of the foot, they diminish its apparent length, and give the inference of a slender ankle. As a matter of fact, they actually make the foot look deformed, greatly lessen the power of walking, and almost entirely take away the "spring" from the foot by crowding the toes together in a most uncomfortable manner. The modern lasts for women, even the most fashionable,

quite conform to these requirements of good fit, broad soles, and low and broad heels; and thus a woman can get both fashionable and sensible shoes—and comfortable as well—at any large shoe store, by using a little time and patience.

Remember that, aside from the above essential considerations, the shoe, to conserve the beauty of the foot, should display not only its outline, but its elastic pliancy and proportion to the rest of the body. You will not then choose too small or too stiff shoes nor any not uniform in color, or with elaborate rosettes, etc., for the best of æsthetic reasons.

Unusual exercise, sufficient to cause the feet to sweat, or a wetting, makes an immediate change of both shoes and hosiery imperative, especially in delicate persons, as the cold produced by the evaporation of the excessive perspiration is very liable to chill the feet. However, if one gets the feet even thoroughly wet and keeps on moving, she is in no danger until her exercise actually ceases, when rubbing and changing should be promptly done.

Hosiery and Garters.

Here again, the principles of hygiene would demand a woollen or wool-mixed material as the proper one for hosiery, because it absorbs moisture readily and has sufficient elasticity to prevent creasing. Cotton, silk or linen hose may answer in the house, but some form of wool is best for out-of-doors, or for those liable to cold feet. Stockings should fit as well as shoes, should never cramp the foot, cause folds or creases, or have any projecting ribs or seams. They should vary in substance, according to the work, the time of the year, or the fancy of the owner. Judging from the shop windows, the latter is the chief consideration. However, this much can be said, that too much variety in color and striping is never quite consistent with modesty or taste.

Garters or bands about the upper leg or knee are contrary to all canons of health, but have been worn by women from time immemorial and probably will be for some time to come. Particularly for children and growing persons a compressing band around the leg is very undesirable. The

old-fashioned knitted garter was the best as affording sufficient elasticity and firmness. If garters are worn at all, they should be placed below the knee, as above they are necessarily drawn much tighter to prevent the stocking from working from under by any strong contraction of that large joint. The modern garter is not a band, but a hose-supporter, attached to the waist or corset, and supported from the shoulders, and is the ideal means of keeping the hose from wrinkling.

CHAPTER VII.

MORAL TRAINING.

"Bear through sorrow, wrong and ruth
In thy heart the dew of youth,
On thy lips the smile of truth."

—Longfellow.

This subject is one about which there is room for much difference of opinion and yet it cannot be left entirely out of such a treatise. Very much of what is generally called good health—perhaps all of it, according to some thinkers—depends upon the mental and moral attitude of the individual concerned. Nothing in the discussion of such a subject is indelicate or trivial, nor should it be so considered. There are certain functions about the household, very necessary and essential to the comfort of the family, the exercise of which is kept in the background. All know they are carried on, but there is a certain agreed reticence concerning particulars. So certain

bodily functions, none of them of less importance from a hygienic or scientific standpoint, are by common consent given less prominence. Along these lines, in matters perhaps less refined and polite, does this chapter deal. The attempt has been to speak truthfully yet delicately, and to state necessary facts without offense to innocent ears.

Kissing and Caressing.

Because of their sex, the persons of little girls, even from infancy should be more carefully handled than those of boys. Parents should themselves be more gentle in handling them and should insist upon the same gentleness on the part of all members of the family. One reason for this is that the muscles and bones of a little girl, even a strong, healthy one, are softer and more tender than those of the average boy of the same age. But that is not all. If a girl is thus early taught to receive the personal consideration she is entitled to, she will not too soon fall into wrong habits in

regard to the expressions of affection which invariably come later in life.

Infants of either sex are kissed too much and too promiscuously. Many persons indulge in this outburst of natural affection without reflecting that it is possible to greatly disturb the little one physically, interfere seriously with her sleep or digestion, and perhaps convey to her more sensitive membranes the germs of dangerous or even fatal disease.

When kissing and caressing become expressions of affection after maturity, their indulgence has a moral bearing. The innocent young girl, because she is such, is not a proper target for these formal evidences of regard and esteem. She should not be kissed at any and all times, and has a right to resent such attentions. Moreover, no self-respecting man will permit himself to thus kiss and caress any but his own daughters, near relatives or intimate friends. The reason for this prohibition lies in the possibility of suggesting or teaching the young woman things she should learn only from her husband, and thus prematurely exciting and disturbing her pure and even

life. "Evil to him who evil thinks" is always true, yet few men are so constituted that they can safely form the habit of thus treating young women. Therefore every young woman at all times should resent too much freedom in this regard from any but relatives or trusted friends. She should regard her person as too precious for promiscuous handling, and should so keep herself until her marriage to the honest lover of her choice.

A girl will lose in dignity or self-respect by allowing to anyone not a near relative familiarity or freedom. The opposite conduct tends to make her bolder in manner, destroy the bloom of purity, and cheapens her altogether in the eyes of her acquaintances and of all right-minded persons.

Right and Wrong Reading.

One of the best means of becoming good company for other people, as well as for one's self, is to store the mind with good reading. No woman can afford to grow up with an empty mind. Bacon truly said that, "reading maketh the full man," and he cer-

tainly would include also the intelligent, educated woman of to-day. Good books are always the best of companions, giving one ideas to ponder over when alone. Moreover the mind grows, as does the body, by what it feeds upon, hence the equal importance of proper reading as of proper food.

Every girl or woman should have some standard by which she selects her reading, for some reading is like decayed fruit or poorly cooked meat in its after-effects. Probably the best criterion of a book is its immediate effect upon the mind. If its words and ideas remain as pleasant and worthy pictures in the mind, and fill one with desire to be better, it certainly is proper reading. This term does not always imply books of history or religious books, or those of a serious or scientific nature, all of which have a place in good reading. Most excellent teaching is to be found in novels. Many a truth sinks permanently into the mind through the reading of a well-told romance. Yet constant reading of simple romances, those having no purpose but to amuse and startle, is to the mind what

making a whole meal of sweets would be to the stomach.

There are dangerous sorts of books written to confuse women's moral sense. These a pure-minded woman can tell by the first open page, and will shun immediately. Any written word that brings a blush to a woman's cheek is thus dangerous. Evil pictures seem to cling to the mind even more tenaciously than good ones. It is well for a girl to have nothing in this wonderful picture gallery of the mind that she would not freely show to her mother or sister. Word pictures, to be sure, are not the only ones there stored, but are fully as lasting as any, and should therefore be beyond question. Another reason why a woman must choose carefully for herself or her children the very best of reading, is the impress that ideas leave not only on the recipient, but upon the next generation. Ideas blossom into acts, acts form character, and character is certainly transmitted. By all means leave out of this series the effects of degrading or impure reading.

Education as to Matters of Sex.

As all life proceeds along sex lines, and society itself is based thereon, the instruction of young girls in such matters becomes at once necessary and important. Dr. Elizabeth Blackwell in "Advice to Parents on the Moral Education of their Children," puts the matter, most aptly, as follows: "The following points, bearing on the moral education of childhood and youth, must be considered by all parents who are convinced of the saving value of sexual morality, viz. : observation of the child during infancy, acquirement of the child's confidence, selection of young companions, care in the choice of school and the choice of studies which will not injure the mind, the formation of tastes, outdoor exercise, companionship of brothers and sisters, the choice of a physician, social intercourse and amusements. The earliest duty of a parent is to watch over the infant child. Few parents are aware how very early habits may be formed, nor how injurious the influence of the nurse often is to the child. Watchfulness over the young child, by day and night, is the first duty to

be universally inculcated. Two things are necessary in order to fulfill it, viz.: a clear knowledge of the evils to which the child may be exposed, and tact to interpret the faintest indication of danger and to guard from it without allowing the child to be aware of the danger."

This excellent advice hardly needs supplementing with the statement that, if these suggestions as to the parent's plain duty are fully carried out, the child will reach the age of ten or twelve unscathed and fully fortified against evil.

The Parents' Duty.

But as the young girl approaches womanhood, the parent's problem becomes more complex. Then it is the solemn duty of the mother, or without her the father, to explain, not bluntly, in literal language, but as clearly as possible, in terms that appeal to the reason and somewhat to the imagination, the relations of the sexes. This need not be done all at once, but gradually, as occasion comes. Many heart-burnings and much sorrow from ignorant errors will be

thereby prevented. This is one of the most serious and unavoidable obligations placed upon parents.

Most particularly should the "monthly sickness" or menstrual function be explained in all its physical significance. It is so much a part of a woman's life, and its natural recurrence means so much, in the matter of her health, that the young girl first approaching that time should fully understand its significance. It is cruel to have that first event come upon a young girl without any warning or understanding. Such an unnecessary shock often leaves its mark on later life. If, on the other hand, she realizes that the most important function of her physical existence is thus ushered in, and thus recurs as part of a divine and universal purpose in nature, she is better able to bear the attendant inconvenience and discomfort.

The Effect of Improper Diet.

At this age also, it is the duty of parents to allow their children no highly seasoned or stimulating food, or late suppers, and

especially no alcohol in any form. The obvious reason for this is the effect such diet has, by round-about action upon the sexual organs, to excite and over-stimulate, generally with lascivious dreams. In young women alcohol is said to bring about menstruation earlier. Other articles of diet especially reported to have such exciting effects are: oysters, eggs, pepper and champagne.

Avoidance of Bad Habits.

The purity of a woman's body is and should be inviolate. It is her home for her whole life in this world; she cannot sell it or give it away, and no matter into what bad condition it gets, she must stay in it during her term of life, be that short or long. The "Saints" on Cape Cod are said to familiarly speak of the body as the "tabernacle," having no doubt the Scriptural figure of speech as their model. And the figure is literally true. Therefore not only along the lines detailed in other chapters for the care of the various parts of the body by hygiene, exercise, etc., but also along special lines, this same careful attention is nec-

essary. If a good pair of eyes should not be overstrained, abused, or even touched too much, if the ears should be let alone and protected from foreign particles, so also every other part of the body should be sacred and protected from profanation.

No girl who remembers that every organ is sacred to its appointed uses, and that it is her duty to keep herself pure for such uses only, will take the risks of the ofttimes serious consequences of forgetting these facts.

Religious Instruction.

It is not well to teach too much formal religious doctrine to very young children. If each is a child of God, and not of the devil, conceived in innocence and not in "original sin," the remnants—"remains," some say—of inherited good will in due time come to the surface in thought and speech, and need then only be guided in proper channels. These may be, in the writer's opinion, smothered by too much early inculcation of the details of formal religious instruction; smothered because when, with awakening reason and judg-

ment, the young mind attempts to reconcile the primitive and simple ideas of God with all that has become commonplace by repeated iteration, there results discouragement, loss of reverence for good things, and unwitting disregard of the whole subject of religion. If the idea of God as a loving Father and of mankind as his children is early taught, all other necessary facts and precepts will logically follow, as the structure of character is upbuilt upon these sure foundations.

It is a scientific fact, as expressed most aptly by Perez, that "the mystery of their own existence and of the existence of the world does not interest or preoccupy young children, unless they have their attention directed to these subjects; and, in our opinion, parents are very much mistaken in thinking it their duty to instruct their little ones in such things which have no real interest for them—as to who made them, who created the world, what is the soul, what is its present and future destiny, and so forth."

The more simple the first principles of moral teaching laid down in the first years,

the more careful the parent is to instruct by example rather than by precept, the less there will be to unlearn in the future, and the greater will be the strength and completeness of the moral character.

CHAPTER VIII.

MARRIAGE AND MOTHERHOOD.

"A mother is a mother still,
The holiest thing alive."

—Coleridge.

Society is now so complex, and woman has had opened to her so many new channels of usefulness and activity in this complex society, that she does not now at first turn to marriage as a necessity to her support, but more often, for years at least, essays the problem of existence almost unaided.

We have come to look upon this as entirely proper and usual, yet the fabric of society would entirely fall to the ground were it not for the "ancient and honorable state of matrimony." Marriage is still, and ever will be, the best state for most women as well as men.

As society is now organized, the open choice of a mate is left with the man. But

every true woman has, and should have, an ideal to which her final selection must conform. As to the formation of this ideal, some suggestions will not be out of place. The first requisite of a proper husband for the healthy woman is not brains, culture, or money, although all these are desirable, but health. Without health all the rest that could be catalogued, as needed qualities, are without worth and of no avail. As the man most assuredly seeks to ascertain something of the physical inheritance of the woman whom he would make the mother of his children, so the woman has a right to know something of the physical history of the man who is to be the father of her children.

The Regulation of Marriage by Law.

Some physicians and philosophers have earnestly proposed that these matters of health should be regulated by law, examinations being held before marriage and certificates issued thereon, and that those of certain inheritance and physical defects should, for the good of society in general, be positively forbidden to marry. This is,

to an extent quite startling to Americans, carried out by the marriage laws of France, but will probably never be generally adopted in the present organized society. As education spreads and intelligence on such matters increases, each one for himself or herself will decide more wisely in these matters. If young women were individually thus exacting, the race would soon improve, and certain social sins be quite thoroughly rebuked, if not entirely checked.

The Essentials of a Happy Marriage.

The young healthy woman should insist upon a mate somewhat near her own age, for the sake of the children and for her own comfort later in life. Great disparity of age reacts finally upon both parties to the marriage contract, and especially upon the children. The children of healthy young people are born with a vigor and resistance to disease not commonly found in those of older parents. Children born to parents over twenty and under thirty-five, as far as definite limits of age can be laid down, are of this sort.

The desirability of the inter-marriage of near relatives, such as first cousins, is a much-disputed subject among physicians and scientists, but is generally forbidden by popular opinion. It is certain that a family defect is undoubtedly made more marked in the offspring of such marriages, and that such a defect is less likely to be transmitted if one parent came of a distinct and possibly stronger stock.

Engagement and Courtship.

It seems very trite to tell a woman that marriage should not be entered into hastily, or for any or all of the above-mentioned reasons alone, but that love must be at the basis of every union. This is a fundamental truth accepted in all times and in all ages, and hence incorporated in all literature. Nothing but true love will stand all the shocks of life; everything else sooner or later proves elusive. If a young woman accepts this as a fact and acts accordingly, she will save herself many heart-burnings and tears, and add more to the sum total of her

life's happiness by this decision than by any other one act.

In order to be sure that she is right in recognizing in herself and the intended husband the presence of real and lasting love, their engagement, or at least their intimate acquaintance, should be a matter of months, rather than weeks. "Love at first sight" may be sometimes true, but it had better be thoroughly confirmed before the well-nigh irrevocable bonds are entered into. Nothing is truer in actual human experience than "marry in haste and repent at leisure." Time is necessary to a sufficiently complete knowledge of the various traits and peculiarities of the two people who propose to spend the remainder of their lives together.

On the other hand, too long engagements and courtships are to be avoided, as putting both parties under too great a physical and mental strain, and as unnecessary in most instances. During courtship the young woman has a right to throw about herself all the protection that her virtue demands, even from the man who seeks her hand in lawful marriage. She should keep early evening hours and require him to do the same,

and be careful about long riding, walking, or rowing trips, etc., without a chaperon. These directions may seem prudish, but if a girl will consult her mother, she will tell her that they are not unreasonable or foolish.

Early Married Life.

The universal habit of a wedding trip, or something corresponding, is based upon the necessity for full and isolated companionship between married people, and this necessity extends into the first years of married life. If two young people are to be happy together they must live in their own way and after their own unbiased ideals. It is a great error for two young persons to begin their home life with parents or parents-in-law, if it can possibly be avoided. There are too many circumstances in their mutual adjustment in which no other person has any right to interfere. Questions of economics, personal conduct, or later the care and rearing of children, should be asked and answered by the experimenters, that is, the younger people, and not by

their elders. Too often interference in these early years embitters the whole life and estranges those who should be friends. Neither the kindest and most interested mothers or grandmothers, the fondest of aunts or cousins, nor the "thoughtful neighbors," have the slightest right to offer suggestions unless requested to do so.

Motherhood.

With a happily-accomplished marriage, the very next consideration should be the anticipation of motherhood. Without hesitancy and without shame, that state had rather be promptly entered into than to begin a long series of efforts to thwart nature or to wickedly cut short a pregnancy already begun; for such unnatural proceedings are usually charged up with interest and foreclosed upon later in life, always at some most inconvenient season. Many a young married couple, who for economic or other apparently good reason have put off having children for a few years, find to their consternation that the children do not come, and that, as the years go by, they must pay

dearly for their early mistakes by not being blessed with any offspring. Every honest physician will confirm the truth of this.

Relations to the Physician.

The parents who are cognizant of any inherited traits, in justice to themselves as well as their offspring, should be honest with themselves at the very beginning and make a capable physician their father confessor from the beginning of their married life. Choose one who is likely to spend his life near you, and tell him all there is to tell of your parents and ancestors, their mistakes and your necessary inheritance therefrom. Then, when the children come, he can be doubly useful to you and to them because of this knowledge. A false modesty, mawkish sentiment, or social considerations, should not weigh when dealing with a conscientious physician. Remember that even the law cannot force from him the knowledge he obtains in the course of his professional work, nor will it be for his best interest—indeed, it will work the ruin of

his practice—not to keep inviolate such confidences.

As soon as the wife is certain that a new life will demand her forethought, even though she feels no necessity from her own physical condition, she should frequently consult her physician in order that he may aid her by advice as to her diet and hygiene, and if necessary, by occasional medicines. The physician, more than any other person, not excepting kindly relatives, friends and neighbors, even if of becoming age and experience, should be her guide in all these matters, and his directions should be implicitly obeyed. This is true at all times, but especially true when the family history is an unfortunate one, physically speaking.

The Hygiene of Pregnancy.

The robust, rosy, healthy young woman approaching motherhood, in a normal condition and amid favorable surroundings, need not refer to this section at all, for it is written rather for those who need to seek such ideal conditions and to know how to train themselves into such a state. This ad-

vice will by no means take the place of the family physician, but will hint at a few of the more evident mistakes of young mothers.

Most of the ailments of the pregnant state are amenable rather to hygienic and dietetic rules than to medical treatment. The surroundings of the mother and her family relations should by all means be congenial, not necessarily luxurious, but such as make her happy and contented. The bearing of this is primarily upon the mother's health, but it also greatly moulds the child's physical and mental condition after birth.

The pregnant woman is often more excitable and irritable and her emotional susceptibility is usually somewhat greater than at other times, as is perfectly natural, when one considers how much greater are her bodily activities and how much more varied her functions. Her mood alternates from brightness and buoyancy to sadness and even despondency. If her husband and friends realize this, they can greatly contribute to her happiness and that of her child by being charitable to her shortcom-

ings and always cheerful in their demeanor towards her.

Mental Influences Before Birth.

Mothers should exercise great care over their condition of mind before the baby is born. A mother who allows physical ailments to make her continually cross and unreasonable during these months may thereby be giving her offspring a very undesirable heritage. Anger often indulged in, peevishness, or melancholy, however pardonable under the circumstances, should be earnestly fought against. All the home influences should be those of harmony, peace and love. Here the husband may fulfil a very manly duty by contributing to the cheerfulness and happiness of the mother in every possible way. Little acts of tenderness and kindness at this time may be reflected in the new-comer. In a world in which the most real permanent thing is love, it is the solemn duty of the parents to foster it between themselves, especially at this time. By so doing, the "little bundle of love sent down from above" will have

the original blessing of affection which every baby brings with it re-enforced and strengthened and made more lasting.

Food in Pregnancy.

The mother has to take nourishment for the child as well as herself, and should therefore look well to both the quantity and quality of her food. While there is a radical difference of teaching in different writers, as to some articles of food, all agree that plenty of plain nourishment, at regular intervals, without stimulation or overheating, is necessary.

The stomach troubles of the early months, commonly worse the first six weeks, and oftentimes very severe, usually pass off as the womb enlarges and is held up by the bony wall of the pelvis. Then the mother needs, and can make full use of, a fair quantity of good food, such as suits her personal tastes, and should pay some attention to her especial cravings, indulging them, at least moderately. These odd cravings at such a time often originate in the lack of some salt or chemical

constituent necessary to the child's proper growth; hence they should not be entirely ignored.

It is better, as in ordinary health, to avoid too much fluid while eating, and drink just before a meal or two or three hours after. Too much sweets and fats are also disturbing to digestion and unnecessary. Towards the end of pregnancy a more moderate and simple diet is best; even milk alone, at shorter intervals than the ordinary meals, being most excellent for the over-burdened abdominal walls and kidneys. If at any time during day or night the mother is actually hungry, her appetite should be appeased. This is often true during the last weeks, the hunger coming on in the early morning hours. Then a glass of hot or cold milk, with or without a cracker, should be taken, even if the husband has to get up and prepare it.

Exercise in Pregnancy.

Moderate exercise is absolutely necessary up to the very last days. Too violent or prolonged exercise is always harmful, not

only taking from the mother her needed energy, but making abnormal draughts on the vitality of the child. Those mothers who accomplish such feats of household labor, or who are too active socially, with consequent lack of sleep and late eating, literally rob their children and cause them to suffer, it may be their whole lives, for their mother's sins.

The everyday duties of the household—by which we mean light housework—give most excellent exercise. Walking or gentle carriage riding, any reasonable exercise that will keep her much out of doors, as gardening or, within limits, croquet, tennis and golf, are also allowable. As in all proper exercise full, deep breathing forms an essential part (see Chapter V), so in this condition it serves not only to force the blood especially through the lungs, but promotes digestion and actually expands the abdominal walls for the child's greater freedom of space.

It is probably a fact that, when the bodily frame and strength will permit of it, constant and regular physical exercise during pregnancy renders labor shorter and

easier. If in the later weeks the joints about the hips or elsewhere become relaxed so that motion is impeded, passive exercise by massage or a muscle beater is of great service. Some contend that if the mother is dressed loosely, keeps her mouth closed, and walks erect, and fills the lungs full of air and holds her breath to the top, nothing is better exercise for a pregnant woman than going up and down stairs. A study of the muscular action involved in this would seem to bear out this conclusion, only the above conditions are absolutely essential to the good results. No one with a feeble heart or bad circulation should attempt this.

The Value of Rest.

The pregnant woman needs abundant sleep, and even if she feels well and sees no necessity for it, she should form the habit of lying down an hour or two after the mid-day meal each day. The best sleep is to be had not in a sitting posture, which is a temptation later in pregnancy, but prone upon the back or side, better without a pillow. Thus only can the full res-

torative effect of sleep be had, nor need the mother be ashamed if she thus spend from ten to twelve hours in each twenty-four.

The Proper Clothing in Pregnancy.

What has been written in Chapter VI applies with double force during pregnancy. The dress must be so adjusted as not to compress the abdomen and chest, therefore the corset and tight-fitting skirts are always injurious from the very beginning of pregnancy. All dress must be suspended from the shoulders and be as loose and light as the season will permit. No one article, even the shoes, should in any way impede the functions of the body, and especially must there be room for the development and elevation of the womb, and freedom from pressure upon the kidneys. This latter error leads to a not uncommon complication of kidney congestion and dropsy, which is occasionally fatal to both the mother and child.

Those who have borne several children sometimes get great comfort from a retaining abdominal bandage worn during the

latter half of pregnancy, but it is not well for the young mother to begin with it. Union under-garments, loose fitting, are probably the most comfortable. The mother may be sure that her clothing is sufficiently loose if, when lying flat on her back and with the hips slightly elevated, she finds no difficulty in a full, deep and prolonged respiration.

Bathing in Pregnancy.

Frequent bathing is even more essential at this time than at others, and may be warm or cold, according to previous habits, and the season of the year. Baths should certainly be taken daily in warm weather, twice weekly in cold, and always with abundance of water and soap.

The stimulus of a cold sponge or towel bath is especially invigorating in the early months. If the mother is not accustomed to it, she should begin with the upper parts of the body, and gradually cover the whole surface. This should be done briskly immediately upon rising in the morning, and should be over within five minutes. All the

time, but especially in the last weeks, are the processes of nutrition and waste more active, so that, as in the infant, the skin needs more frequent cleansing.

The best partial bath for the pregnant woman is a sitz-bath. This may be taken in a tub made for the purpose, or in a small wash-tub, one side of which is elevated, between ten or twelve in the morning or just before retiring, in tepid, or better, real hot water. Remain in the hot bath from five to ten minutes, not longer, rub briskly, and lie down for an hour or for the night. Besides relieving a host of dyspeptic and kidney symptoms, and cleansing the skin where most needed, it keeps the muscles to be most used in labor softened and stimulated, especially if sweet or cocoanut oil is thoroughly rubbed about the muscles of the thighs and loins just after such a bath. These baths can be taken daily and, finally, with more rigorous women, even twice daily in the last six weeks, to the great advantage of the mother. If she becomes faint or weak, or has a "rush of blood" to the head, she should immediately leave the

bath, and lie down, perhaps with a wet towel about the back of the neck.

If these simple hints are carried out, this normal state of the prospective mother will be robbed of its sufferings and forebodings, and will become, as nature intended, a period of health and pleasure and loftiest anticipations.

CHAPTER IX.

WOMAN IN THE HOME.

"She looketh well to the ways of her household,
And eateth not the bread of idleness."

—Proverbs.

The mistress of the home, the mother of the family, is as the governor or the fly-wheel of the engine, without the smooth running of which the whole machine is well-nigh useless. She has by far the most important part to play in educating and caring for the healthy woman, not only along the paths outlined in the previous chapters, but also along several others peculiarly associated with the home. To aid her to act intelligently and successfully in this, her own peculiar province, is the purpose of this final chapter.

Household Duties.

This term, like the mantle of charity, "covers many sins," both of commission

and omission; chiefly the former, because the good housekeeper actually does far more each day than she forgets to do. Proverbially, her "work is never done." This is everywhere recognized and needs mention here only in its relations to woman's health, and in order to protest against the awful drudgery of it all, as it is seen in the average home. Even where there is no manager or housekeeper hired for the purpose, the amount of detailing, planning for, and directing, a single servant is considerable.

Many wealthy women whose houses are filled with servants, fall into nervous debility and prostration from the sheer pressure of the management of it all. But when everything accomplished in the house falls to the lot of one poor woman and devolves upon her single pair of hands, truly the burden is often "greater than she can bear," especially when this stretches on into twenty, thirty and forty years of married life.

Just how woman is to be emancipated from this is a problem of the future, a problem that will finally be solved, after woman

has declared her needs boldly in the clubs and various organizations, and after society has become reorganized upon a more equitable basis of economics. Here, in this little book, it is sufficient to point out these abuses and leave it with the husband and wife to make out some *modus vivendi* that will lighten the burden even a little.

The Mother's Separate Purse.

One item seems absolutely essential to health and happiness, and this is one very often ignorantly or wilfully overlooked. The mother or housekeeper should have a separate sum of money, weekly or monthly, furnished her as liberally as the earner's income will admit, with which to purchase for the house and family, and her judgment in these matters should then be trusted absolutely. She deserves this much independence as copartner in the home and can certainly train herself into an intelligent use of the money. She will thus be able to get better food for less money than by the credit system, and be herself more contented because of this freedom of action.

Children's Household Duties.

The children should not be drawn too much into the drudgery of household duties, especially while at school or during their growing years, even when the economic pressure is great. They are entitled from the hygienic and moral standpoint to a happy and free childhood, and no reasonable effort towards that result should be spared. Let the parents practice more self-restraint, and not live as though their children came for the special purpose of caring for them, or in other words, were a sort of provision for old age. Where the family increases rapidly, this very wrong theory militates against both the health and the happiness of the children.

While on the one hand, the mother should not wear herself out in caring for the family and the house, it is also strictly, even religiously, true, that no club, church or social duties exceed in importance those of the home. The woman whose household suffers for the above reasons has much to answer for in the future of her children and even her grandchildren.

Social Duties.

It is only necessary upon this topic to warn against excesses, for, most wisely, every woman should be allowed to undertake socially what seems best to herself in the interest of herself, her husband and her family. It is only when she becomes so enamored of social duties and pleasures that everything else sinks into insignificance, and even her health may be endangered, that the husband should insist upon greater temperance and repose. Few women, without abundant wealth and the accompanying aid which wealth can procure, are physically equal to the demands of a full "social career," such as modern city life now calls for.

If the average woman undertakes it, something has to be neglected, and finally the strain of endeavoring to do all things breaks down her health and strength, and by the time her children are married, or even before, she either dies or passes into a sickly, fretful old age. Many a simple American home is thus rendered extremely wretched by the inordinate social ambitions

of the mother. Not only is this morally wrong, but it never pays from either the financial or economic standpoint.

Not for a moment would these strictures apply to the usual social intercourse of relatives and friends, an association necessary not only to happiness, but to health as well.

Study and Reading.

If a young girl is attending school and living at home, as most girls are, it is oftentimes a difficult matter to rightly regulate her hours of study and suit at the same time her health and the family convenience. Yet this should by all means be arranged by the parents with the utmost care. The time of study should be at the earliest one hour after eating and not later than ten o'clock in the evening. If her tasks are such as to require more than such an afternoon and evening will provide, then her work should be lessened, rather than the hours lengthened. If possible, a quiet spot should be furnished for these hours of study. A young girl's health is far more important than her learning, especially around

the age of maturity, and no aspirations or ambitions should be allowed to obscure this fact.

Even the busy housewife, whose cares seem endless, can, if she will, find time for some line of reading or study, and the result is well worth the effort. Not only has she the pleasure of gaining new knowledge, but the mental exercise is healthful and inspiring. She, of all women, is least likely to become so engrossed as to do herself physical harm by stealing hours of study, for the very mental change is an element in good health. That such reading and study, even if apparently selfish, is much better than neighborhood gossip, goes without saying.

Sleep.

No one factor enters more into the maintenance of good health than this, which "knits up the ravelled sleeve of care" for all ages of life. During sleep consciousness is normally lost, and the whole body, but particularly the brain, enjoys rest from its activities, while certain constructive and

nutritive functions still go on. Even those whose brains do not sleep get some muscular rest and general refreshment. For instance, the delicate woman who takes a Sunday, or an occasional week day, in bed, gives herself much needed rest, although she may not sleep more than four or five hours in the twenty-four thus spent in bed.

Individual need and capacity for sleep varies from six to ten hours, the average requirement being eight hours. The old English poet, not unwisely, divides the whole day thus:

"Seven hours to law, to soothing slumber seven.
Ten to the world allot, and all to heaven."

Infants require from fourteen to sixteen hours in the twenty-four for sleep. Growing children should, if possible, have all that they will take if let alone, that is from eight to ten or twelve hours. It is barbarous to make them arise at five or six o'clock simply because their elders prefer to and wish to have the work of the day out of the way early. They should, even with late rising, keep early hours for retiring, for de-

velopment and growth will actually be checked if the sleep at both ends of the night is shortened. Six or even fewer hours of sleep suffice for the aged, and less time is usually needed by brain-workers than by laborers.

The colder the climate, the longer and sounder the sleep. Women are said to need somewhat more than men. This would seem to lead to the inference that the husband should be last in bed and the first up, which, however, is not the rule in some households.

The discussion of insomnia, which means insufficient and restless sleep, or entire absence of sleep, belongs strictly to a medical treatise. It is a condition that should relegate the sufferer to a physician's care at once, for, if prolonged, it may be a warning of serious nervous trouble. Sleeplessness in children is far more dangerous than in the adult, and is usually accompanied by more mental and physical disturbances.

Sanitary Hints.

This generation has apparently much to learn about practical ventilation, for very few homes, and not many public buildings, schools or churches, give evidence of any attempt at systematically or scientifically removing the foul air necessarily accumulating in them, or supplying sufficient fresh air for even the ordinary needs of the occupants. Perhaps architects and builders realize that this should be done, but are not willing to spend the necessary money. If everyone who had had the experience of spending the night in an absolutely closed room, and felt the headache, faintness, and debility resulting, appreciated how much the repetition of this gradually impoverishes the blood and undermines the health, there would soon be an irresistible public demand for good ventilation. But many people go through something like this unsanitary and unhealthy proceeding every night of their lives and draw no conclusions therefrom.

There are very few bedrooms in which it is perfectly safe to pass the night without some precaution to secure a proper and

constant current of fresh air. The mother who does not do this for herself and her children is either criminally ignorant or criminally careless. Not every bedroom has or can have a fireplace with an open chimney, in which in cold weather a small fire helps to carry off the bad air of the room. This, or any open window, is well enough for that purpose, but it is also just as essential to have an incoming current of pure air. Good ventilation involves a circulation of air. There are various ways of accomplishing this, the simplest being to draw the window from the top for a few inches, and let the shade or a fold of muslin form a draft-preventer. A less efficient way is to allow both ingress and egress of air between the upper and lower sash by fitting a board five or six inches wide under the raised lower sash. By some patent ventilating stoves this is well accomplished, the pure air being warmed and the foul, cooler air at the bottom being constantly drawn off from the room.

The nose, when the sense of smell is good and well-trained, is the best monitor for an ill-ventilated room. If the bedroom is

closed after leaving it in the morning, and upon a return after ten or fifteen minutes in the fresh air still shows air less pure than that outside, the experimenter may be sure she has not spent the night in a well-ventilated room.

Some Uses of Hot Water.

This simple application is always at hand in the modern home, and serves many purposes besides those of the bath. For neuralgia anywhere, colic, toothache, etc., and for beginning inflammation in almost any part of the body, nothing equals a hot application, and sometimes it is all that is needed. Hot fomentations, as the older physicians call them, consist in the application to the affected parts, of flannel clothes wrung out of hot water. The more modern and neater way of making hot applications is by means of the rubber hot-water bottle, in which boiling hot water can be used and retain its heat for hours, and which can be adjusted to almost any part of the body. It perfectly takes the place of fomentations, if a wet cloth is placed between the bottle and

the skin. If such an application will entirely supersede opiates or drugs of any kind, by bringing relief, so much the better.

Hot foot and leg baths, taken at bedtime, are most excellent for nervousness, sleeplessness, irritability, and helpful to women when the menstrual function has been delayed.

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